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ARTICLE I.

MEDICAL ELECTRICITY. Opening Address before the Chicago Electrical Society, October 3, 1881. By First Vice President S. V. CLEVENGER, M.D., Member of the American Electrical Society; of the American Association for the Advancement of Science; of the American Neurological Association; Trustee of the State Microscopical Society of Illinois; Physician to the South Side City Dispensary, etc., etc.

THE PROBABLE NATURE OF ELECTRICITY has been so often discussed before this society, but little need be said under that head to-night. Sir Wm. Thompson stoutly affirms that "electricity in motion is heat;" Symmer and Du Fay regard it as consisting of two imponderable fluids permeating all ponderable matter (to my mind a most inconceivable hypothesis, as a *condition* is spoken of as a thing; a nonentity as a fluid); Tyndall, as an expounder of the laws of the correlation and conservation of forces, classifies it among the modes of motion, as a property of matter. A mental picture of energy in general may be made by conceiving *sound* to consist of motion of any substance with a

rapidity between 16 and 40,000 vibrations per second, as the ear does not take cognizance of vibrations slower or faster than these; *light*, in round numbers, being constituted by rapid molecular movements numbering 450 billion at the red end of the spectrum, to 800 billion at the violet end; less rapid motions produce *heat*, while chemical effects are wrought by vibrations quicker than that of violet light in the invisible part of the spectrum. The atomic motions known as *electricity* are immensely more rapid than those of light, and even gravity is estimated by LaPlace to be produced by matter in motion, but inconceivably quicker than light or electrical motions, because matter is acted upon instantaneously through inter-planetary space; no calculation is possible of the time required for our sun to act upon the farthest planet. Not all the phenomena of electricity are accounted for by this assumption of a certain rate of vibration.

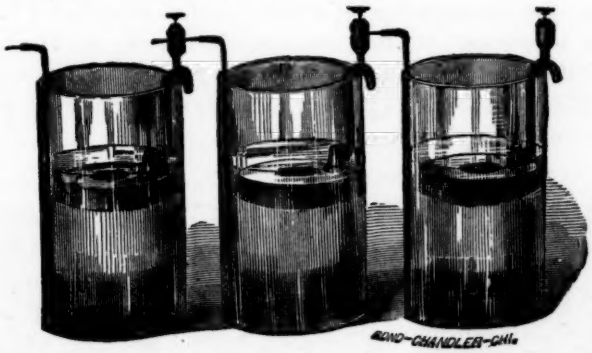
MAGNETISM can be regarded as an effect of electrization, and not as a distinct force by itself. It is in one sense a rectangular electricity, as it acts at right angles to the current causing it, and can no more be regarded as a separate energy than the attraction of gravitation can be considered apart from gravitation. Before Galvani's day the loadstone and artificial magnet were used in the treatment of disease. To-day we know the utter worthlessness of magnetism, pure and simple, as a therapeutic agent; and yet in our medical literature will be found occasional attempts at its resurrection. In surgery it has in a few instances proven useful, in aiding the extraction of foreign metallic substances from the body; as when a small piece of steel or iron had become embedded in the cornea, or had even penetrated to the lens.

I regard the advocacy of magnetism in headaches as deserving to rate with the magnetic jacket and insole nonsense we find advertised about the city.

Electrical shocks derived from the fish known as the torpedo were used ages ago as a cure for some forms of paralysis and rheumatism, but the beginning of electro-therapeutics was made 140 years since, by the suggestion of D'Helmstadt that electric sparks might be serviceable in treating diseases.

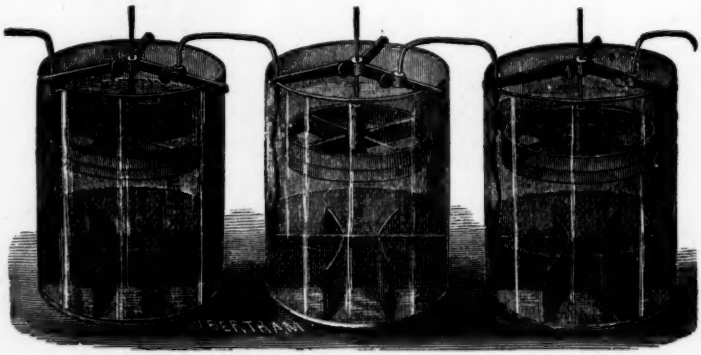
STATIC, FRANKLINIC OR FRICTIONAL ELECTRICITY was the first form to be used systematically in the cure of certain maladies.

Notwithstanding the advances made in physiological knowledge since static electricity was discovered, it has proven of but little use in medicine. Attempts have recently been made to resurrect it, and place it upon an equal footing with Galvanism and Faradization, but it does not seem probable that these attempts will succeed. Some of the great objections to the Holtz machine, used in generating static electricity, are its being cumbersome, expensive, and, even with the recent modifications, unreliable. Dr. A. D. Rockwell, an able electro-therapeutist of New York, in an article on this subject in the *Medical Record*, Sept. 17, 1881, acknowledges that the real *status* of Franklinic electricity requires more experiment and observation; that the tonic and sedative effects obtained by Franklinization are not equal to those obtained by the use of dynamic electricity, and that in electro-surgery it is manifestly of but little value.



On the other hand, he claims that in a few instances pain may be relieved by means of this apparatus, where the other machines fail; that in a few cases the treatment by sparks is preferred by the patients; that in old contractures, and possibly in cutaneous anæsthesia, Franklinization may possess some advantages. Bartholow, in his recent work on Medical Electricity, says very little about Franklinization. A few years ago an enthusiastic essay by Arthuis, of Paris, lauding static electricity as a cure-all, was translated into English in this country, but the work abounded with manifest errors, and was soon consigned to the limbo of worthless literature. At the last meeting of the Amer-

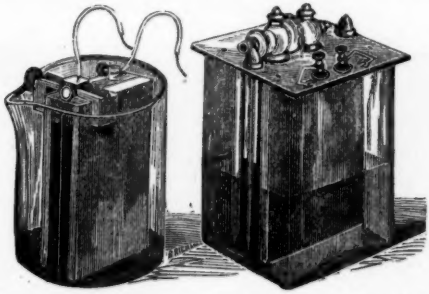
ican Neurological Society, held in New York city last June, quite a discussion was had over the probable value of Franklinic electricity in medicine. Opinions varied somewhat, but in the main it was considered as decidedly inferior to the two other forms. The methods of Charcot and Vigouroux in the use of a large platform, whereon numbers of patients were electrized at once, were characterized as unwarrantable. Dr. Morton described an apparatus, by means of which he claimed results similar to those obtained by the secondary coil, and erroneously called it a new induction current. Claims have been made that advantages are possessed by the current passing through Morton's interrupter, but this has been disputed, and Morton must experiment and report more fully before his apparatus will win favor. Dr. Onimus, one of the best electricians in Europe, refuses to use static electricity, claiming, after patient investigation, that it does no good, with the exception of affording relief temporarily in hysteria, sometimes; but this advantage not being one exclusively derivable from Franklinization, we can for the present pass over the Holtz machine and its improvements as a somewhat useless affair in treating diseases.



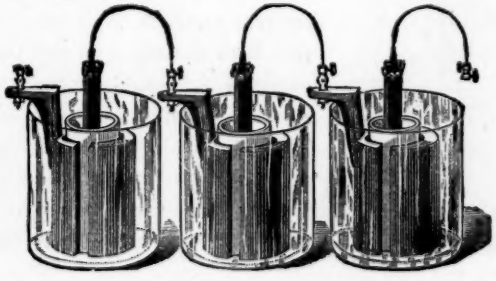
GALVANISM came into use among physicians at the beginning of this century, but it was coupled with mesmerism in the minds of the people, and falling into the hands of mountebanks, its actual worth was but little known until recently.

FARADIZATION came into vogue in 1831, and not until that date did electro-therapeutics assume a respectable appearance.

These two forms of electricity are essentially one and the same thing. An idea prevails, even among the educated, that there is an actual difference between them, as radical as between heat



and light. Galvanic currents, by interruption with a suitable mechanism, and without the intervention of the secondary coil, can be converted into what will resemble in every respect the induced current. The Faradic is nothing more than a to-and-fro galvanic current. Its *effects*, however, as well as its uses in medicine, differ from those of the first named. This address not being intended as an elementary treatise upon electro-therapeutics, I shall merely set before you some of the cells used in generating the constant current. One of these, the celebrated Hill battery, is the invention of a member of this society, Dr. Hill, of this city.

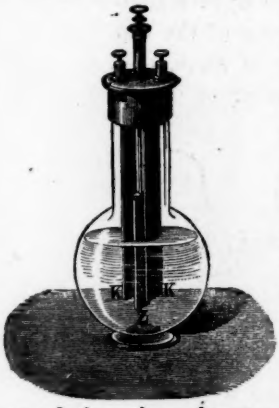


The various forms of gravity batteries here shown are serviceable for offices, but the cells of Smee and Grenet are smaller and more portable. The Grove cup is powerful, but gives off objectionable fumes. The Leclanché element is coming into use for its permanency. As Leclanché cups of two ounces can be made,

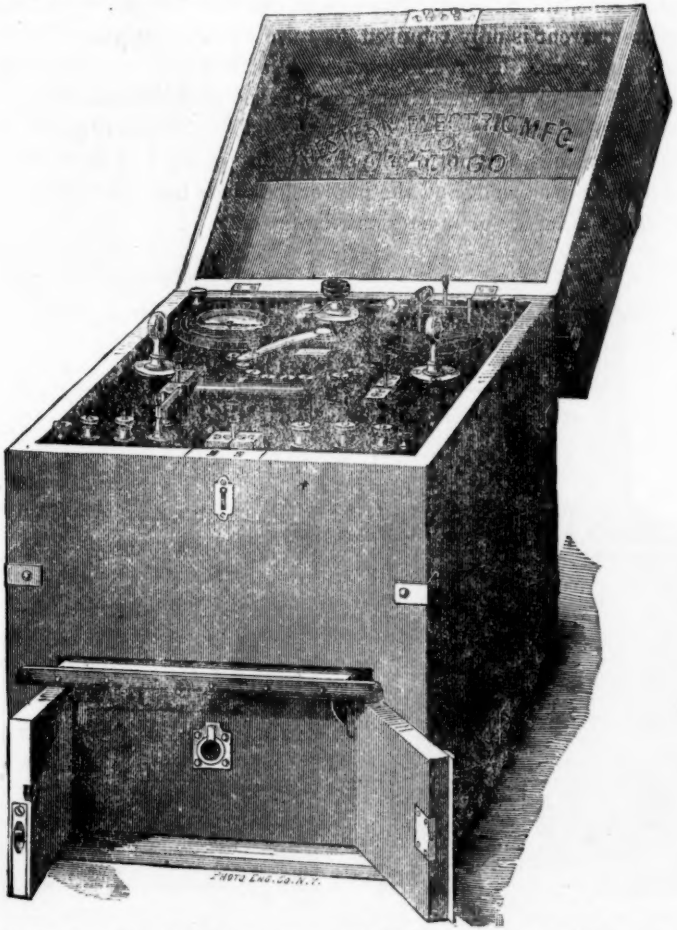
it is also portable, and being sealed, its serviceability is greatly enhanced. Dr. Hammond uses a modified Hill battery for office purposes.

SEALED, NO. I. COMPLETE.

In all works on medical electricity, the Amperian method is used in designating current direction from the positive zinc plate through the solution to the negative copper plate, thence to the positive pole attached to the copper plate, completing the circuit through the wire to the negative pole attached to the positive zinc plate. This ideal direction of the current is actually not the true one. It can be readily shown that both the negative and the positive currents (*cœteris paribus*) travel at equal rates and in opposite directions. Thus, attach a galvanometer to each pole near the battery, and a third galvanometer at the junction of the two connecting wires; upon the circuit completion, the galvanometers nearest the poles will be instantaneously deflected, and the one at the junction subsequently. Designating the galvanometers in a circuit as A, B and C, if Ampere's hypothesis were true, the deflections would occur first at A, near the positive pole; next at B; then at C, next the negative pole. Instead of this we get A and C simultaneously deflected, with B lastly.

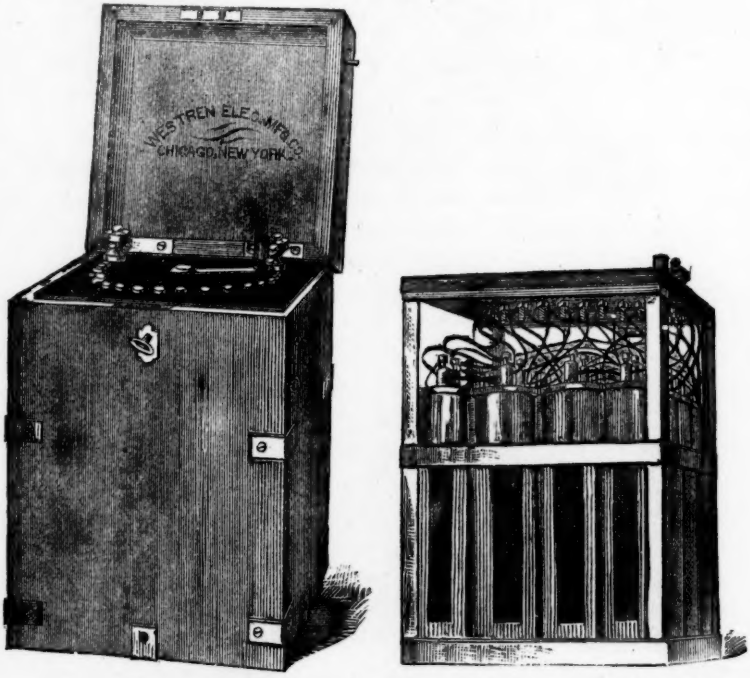


The ingenuity of medical men has been taxed severely in constructing new forms of batteries (as the entire medical machine is styled), but the main points to be considered in a portable case are power, smallness, cleanliness and simplicity.



The tip cup of Kidder has some advantages, but the Smee and Leclanché, of smaller size, are preferable. Large sized cells are of no advantage over a number of small ones, for the law of Ohm proves that although the internal battery resistance is lessened by

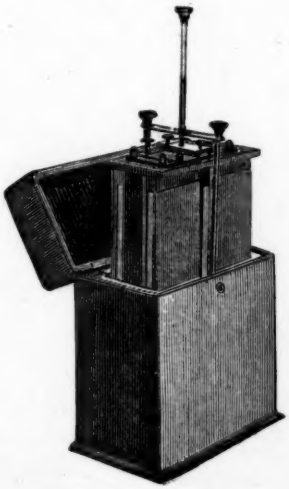
the large sized plates, the external resistance of the animal body is so very great that the quantity of electricity cannot be materially decreased unless a great number of cells be used. For the galvanic cautery, one or a few large cups are better than many small cells, the external resistance in this case being very small, as the current is only required to raise a small platinum wire to incandescence. Therefore the length of the time applied, and the number of cells used, represent the so-called dose of electricity. So at once we can see that the galvanometer, rheostat or resistance coils, are not of the slightest use in medical electricity, except for ornament, and the impression made upon the patient's mind by an array of mysterious implements.



The Galvano-Faradic Company, Dr. Kidder and Fleming and Talbot, make very good batteries, but as those of the Western Electric Company, of this city, have not been extensively figured in medical works heretofore, I exhibit that company's 32 cell

Galvanic and Chloride of Silver batteries. The first named has an electro-motive force of 60 Daniell cells; the chloride battery contains 16 or 24 cells, as desired.

This cautery battery produces a high electro-motive force with a single cell, the internal resistance of which is only .06 ohm. Four such cells as in this battery heat white hot 20 inches of No. 16 platinum wire.

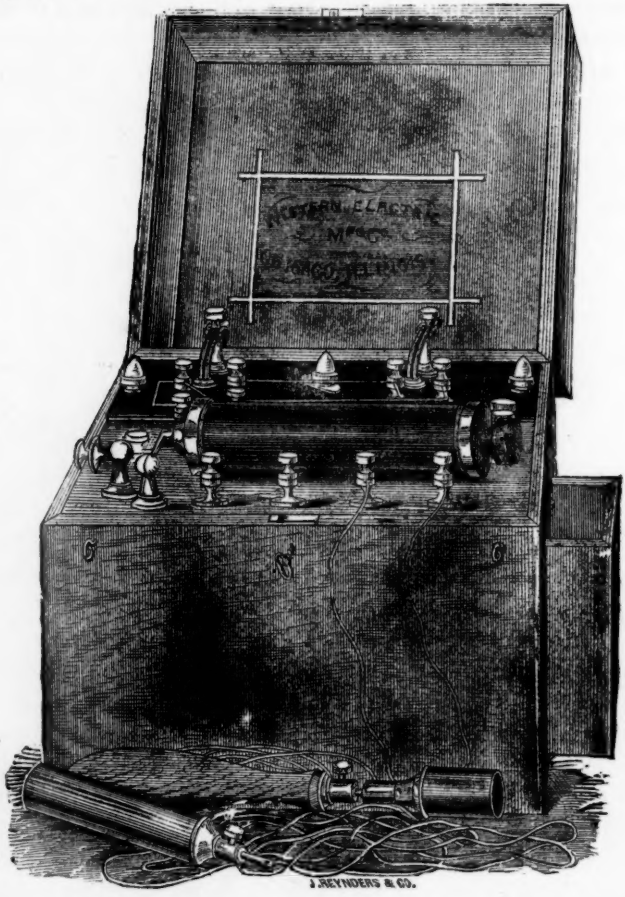


A double cell Faradaic battery is here shown, with a secondary coil resistance of 150 ohms.

A single coil battery, as well as a large number of other forms, are made by the Western Electric Company, among which we find a diminutive affair called the Pocket Induction Machine, which works an hour without re-charging. Bisulphate of mercury is the solution used, and both currents are generated. Obstetricians will find this little affair invaluable in post partum hæmorrhage.

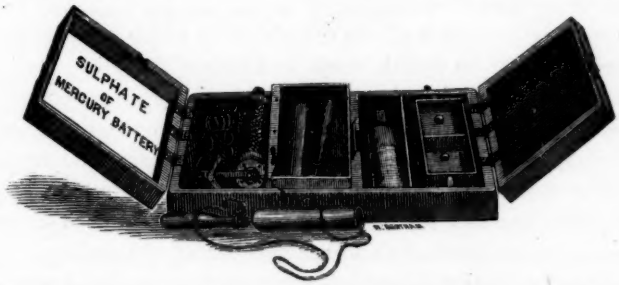
Except for surgical purposes and physiological experiment, the ordinary sponge electrodes answer the physician's purpose in most instances. A multitude of quite useless apparatus of this description has been invented, and in the majority of cases where electrodes are needed other than the sponge, they can be readily made of ordinary wire.

The Bell Induction Balance for detecting bullets, which gave unsatisfactory results in President Garfield's case, is described in the Philadelphia *Medical and Surgical Reporter* for August 13, 1881. It is a modification of the balance invented by Prof. E. D. Hughes, of London, England, a native of Bardstown, Ky. The



first practical application of this instrument was to the detection of counterfeit money, as the several alloys affect the coils differently. Geo. Hopkins, in the *Scientific American*, July 30, 1881, describes a bullet hunter on Hughes' balance principle. The

audiometer is another application, by Dr. Richardson, F.R.S., and I have been fortunate enough to secure one for exhibition. It is used for measuring the hearing, and enables the surgeon to record the progress of recovery from deafness (*vide* Report to Royal Society, *Medical Times and Gazette*, May 24, 1879).



The instrument consists of two primary coils, connected with Leclanché cells. Between these coils is a secondary coil sliding on a graduated bar. The distance between the primary and secondary coils registers the hearing capacity of the person to whose ear a telephone is applied. A microphone key interrupts the current, and the sound ceases to be heard at varying distances between the coils. The statement that an absolute zero of sound is obtainable, and the unnecessary graduation of the bar into millimeters, deserve criticism. It will prove useful to otologists. (Manufactured by Krohne & Sassmann, 8 Duke Street, Manchester Square, London, W.)

Medical electricity is divided into its applications to physiology, diagnosis, therapeutics and surgery. Galvani, Volta, Humboldt, Aldini, Du Bois-Raymond, Trowbridge, Pflüger, were prominent workers in the physiological field, and ponderous tomes have accumulated as the result of their researches. Though they added much to our knowledge, a careful revision of their labors is yet to be made in the light of a recent and better acquaintance with physiological laws. The most striking experiments in this connection were those of Fritsch and Hitzig upon the brains of dogs, and later, those of Ferrier upon that of the anthropoid ape. Definite movements of certain bodily parts took place by electrization of the bared brains of animals, and these discoveries

tended more than anything else to disparage the so-called science of phrenology, establishing in its place what is known as the localization of function in the outer part of the brain. By electro-diagnosis, in many instances, we are enabled to locate the seat of disease, and determine whether it be muscular, nervous, spinal or cerebral.

A mere enumeration of the complaints in which electricity has proven more or less useful, would be tiresome reading. Its most general application has been to paralyses where regeneration of the nerves had occurred, and where, from non-use, the muscles were atrophied; for the relief of pain, to allay spasm and cramp; in loss of sensibility; in many constitutional and local diseases. The surgical uses of this force are numerous, but afford the subject of a future lecture by another member of our society. The unsatisfactory nature of applied electricity in medicine may be realized by inspection of the excellent work of the late Dr. Charles E. Morgan, a most sincere and able worker in this field. His facilities for gathering information on these topics were the very best, and his work, entitled Electro-Physiology and Therapeutics, contains 708 pages, of which only 25 are devoted to therapy. He concludes this small part of his large book with the words: "Such are the definite scientific applications of electricity to medical purposes; of the many others it need only be said that they are based on incorrect theory or diagnosis of disease, or an imperfect or incorrect knowledge of electro-physiology. I do not deny that *future* researches may enable us to do more, far more, than has hitherto been done in this direction."

Take the bulk of the respectable literature on this subject, and after excluding the ordinary descriptions of apparatus and their modes of action, it is astonishing how very little there is of a practical nature in electrical treatment of disease; yet we have electric baths and other elaborate apparatus, inviting the afflicted to take a shock at from five cents on the street corner, to $5 in some gorgeously furnished apartments. The simple little pocket battery will, in the hands of a regularly educated physician, prove infinitely more valuable in ailment treating than the most costly and imposing array of electrical apparatus, managed by an advertising ignoramus. Medical electricity does not yet deserve enough

confidence in its curative properties to warrant any one becoming a specialist in that field, nor does the possession of a fine set of electrical apparatus ensure brains or education to its owner, any more than the ownership of an amputating set creates a surgeon.

I would not have it understood that I disparage the use of electricity as a curative agent, in proper hands; but owing to the medical applications being few, and depending for their efficacy upon an intimate acquaintance with disease, it stands to reason that a very ordinary instrument, in the charge of an intelligent and regularly educated physician, will be of some service where costly apparatus, under other circumstances, may easily prove hurtful.

In this connection it may as well be mentioned that there are educated quacks, as well as ignorant ones. Here is an instance: This great volume on Medical Electricity was written conjointly by two medical men in New York. The junior partner of the firm became disgusted with the trickeries of the senior, and has, since the dissolution of the partnership, published under his own name a small work, which embodies all the essentials of electrical treatment of disease. Since Dr. Geo. M. Beard has taken to lecturing on Trance, and has been proven guilty of attempting to impose upon medical men in England with some of his mesmeric exhibitions, it is safe to presume that to him alone may be credited the pointless, voluminous nonsense of the book alluded to, and Dr. Rockwell deserves credit for what there is good in it.

There is a disposition on the part of certain medical men to resort to innumerable tricks to increase their incomes, nor do we find this class peculiar to any one so-called school. Show, pretense, glitter, owlishness, pass current too often for knowledge and skill. Seeing this, otherwise excellent physicians are tempted to resort to the same charlatanry, excusing it on the ground of having to use psychological influences on their patient's behalf. They find their clients impressed by glittering machinery, and as the imagination undoubtedly has an influence over bodily conditions, why is it not justifiable to resort to measures so harmless, that good may result? Such Jesuitical reasoning is worthy of the highway robber. It is but another step to sugar-pill placebos, and trickery of the vilest sort, all in assumed interest of the patient.

Last winter I witnessed an electrical specialist applying the

electrodes connected with a little voltaic pile to a case of acute rheumatism, and I felt perplexed when the patient said he experienced relief from pain after the application. In the first place, it is quite irrational to use electricity in this disease, and next, the current from the pile was of the weakest kind possible. The mystery was solved by the discovery that a few drops of a solution consisting of eight grains of atropine to the ounce of glycerine had been furtively applied to the painful muscles. A most powerful drug was used to deaden sensibility, while the effects were ascribed to the pile. This is psychological medicine with a vengeance.

A year or so ago, Neftel, of New York, who had published a work on the physiological effects of electricity applied to the head, was being extensively advertised by the *New York Observer* (a religious paper), as having effected marvelous cures of cataract with electricity. As Neftel had made no report of his cases to the medical journals, the genuineness of his cures was doubted, and the course of the *Observer* criticized. It was a disreputable advertising scheme.

To illustrate what the imagination will do in some cases, I shall conclude with an incident in my experience at Mercy Hospital about two years ago. A thoroughly educated gentleman, who had been a professor of chemistry in a college in this State, was suffering from spinal sclerosis, in consequence of which his arms and legs were drawn up against his body, and muscles had dwindled away seriously. Daily applications of electricity were made to special groups of muscles, after Duchenne's method, and concluded by application of the descending galvanic current to his spine. He never failed to respond to the soothing influence of the current, and every evening fell into a profound slumber after a few minutes' treatment in this way. Finally something happened to shake my belief in electricity as a hypnotic in all cases. After holding the wet sponges to his back as usual, patiently, and seeing that he had fallen asleep as he always did, I folded up the wires and turned to let down the cups from contact with the plates, and discovered that they had not been lifted at all. In fact, no current whatever had been passing. But I did not think it worth while to awaken him and tell him that he should not have gone to sleep.

ARTICLE II.

TREATMENT OF THE IRRITABLE BLADDER IN WOMEN. By J. H. ETHERIDGE, M. D. (Read before the Chicago Gynecological Society, November, 1880.)

A too frequent desire to empty the bladder may be said to constitute what is called "Irritable Bladder." Hyperæsthesia, supersensibility of the viscus is the cause of this malady. It ought not to be confounded with irritability of the bladder, which is a physiological, not a pathological phenomenon. "Irritable Bladder," and "Hyperæsthesia of the Bladder" can be used as synonymous expressions.

The *cause* of irritable bladder determines its treatment. When it is unknown, treatment becomes guesswork. Consequently the physician's first problem of treatment is the determining of the *cause* in each individual case of vesical hyperæsthesia.

CAUSES of irritable bladder may be divided into *intrinsic* and *extrinsic* causes.

The *intrinsic causes* include abnormalities of the urine, consisting of—

1st—Too *limpid urine.*

2nd—Too *concentrated urine.*

3rd—An excess of *uric acid*, as shown by gravel, calculi, and amorphous urates.

4th—*Triple* and *amorphous phosphates*, shown in decomposition of the urine.

5th—*Oxaluria*, and

6th—*Sugar* and *albumen.*

Among intrinsic causes may be included abnormal substances not of urinary origin, which may be enumerated as follows:

7th—*Pus* and *blood* from renal or cystic diseases.

8th—*Feculent matter*, gall-stones, joints of tapeworms, and round worms.

9th—*Hair*, *fat*, *teeth* and *bones* from a fistulous communication with a dermoid cyst.

Other intrinsic causes include—

10th—*Cystitis, acute or chronic.*

11th—*Malignant disease* of the bladder, primary or secondary.

12th—*Polypi.*

13th—*Cysts* and *tubercles.*

14th—*Hypertrophy*, centric or eccentric.

Intrinsic causes may include disorders of the urethra as well as of the bladder, and are thus indicated:

15th—*Urethritis*, acute and chronic.

16th—*Neoplasm.*

17th—*Dilatation of the urethra*, including that of the upper third, and of the whole canal.

18th—*Dislocation of the urethra.*

19th—*Prolapsus of the urethral mucous membrane.*

20th—*Stricture*, and

21st—*Incomplete Fistula.*

The extrinsic causes of Irritable Bladder are numerous, often difficult to define, and are much more common than intrinsic causes. Fully two-thirds of the cases of this disorder arise from extrinsic causes. Presenting uniformly but the one symptom of frequent urination, these causes are infinitely less correctly differentiated by physicians, and consequently are worthy of the closest scrutiny and most careful management, therapeutically and otherwise. Every experienced gynecologist can recall only the many defeats in the treatment of Irritable Bladder from extrinsic causes because of not accurately ascertaining the causes in each case. These causes include:

a.—*Oöphoria*, or ovarian, vascular excitement.

b.—*Pressure on the bladder or urethra* from the uterus, or from rectal abnormalities, or from intra-pelvic tumors.

c.—*Sympathetic irritation* from uterine inflammation.

d.—*Malignant disease of the cervix uteri.*

e.—*Pregnancy.*

f.—*Vaginismus.*

g.—*Acute pelvic peritonitis and cellulitis.*

h.—*Ascarides.*

i.—*Hysteria.*

k.—*Mental troubles, fright.*

l.—Exposure during menstruation.
m.—Falls, and blows over the bladder.
n.—Masturbation and copulation; and
o.—Malaria.

The causes herein mentioned are enumerated in extenso, for the purpose of showing that the treatment cannot be the same in all cases of irritable bladder.

The management of cases produced by causes numbered 1 to 5 inclusive, usually involves remedies addressed to nutrition. *Too limpid urine* suggests hysteria, anemia, exposure to cold, mental emotion, in short, diuresis from any cause. Treatment of these conditions involves remedies addressed to the cause whatever it may be.

Too concentrated urine, shown by the small amount voided and by high specific gravity, calls for water, simply. Ordinary drinking water, Poland water, Apollinaris water, or any of the simple mineral waters, capable of increasing the amount of water excreted by the kidneys will answer.

An excess of uric acid is one of the most common of all of the many causes of irritable bladder. Neglected, it speedily causes a congestion of the mucous membrane of the bladder, and this, in turn, propagates the polyuria and dysuria. The organic changes arising from this congestion are of a sufficiently progressive character to afford a constantly acting cause of irritable bladder. In this way, a bladder thus afflicted, at first, say, three months ago, presents *to-day* an irritable condition arising from the products of chronic congestion, whereas the excess of uric acid starting in motion this pathological train of symptoms ninety days ago, now occupies a very inferior position in the cause to-day. Consequently the majority of cases treated by physicians present not only an excess of uric acid, but they present also a vesical mucous membrane congestion. To treat this condition requires skill and patience. An excess of uric acid indicates a systemic, and, especially, an alimentary defect. This excretion, possessed of another particle of oxygen, becomes urea and ceases to be a pathological product. To supply that oxygen is no easy matter. If the blood be made to carry more oxygen and thus supply the deficiency, we must give remedies to improve the oxygenating

power of the blood. For this purpose one quarter to one grain doses of permanganate of potash, thrice daily, will be found useful. This powerful oxydising agent yields up its oxygen in the form of ozone and converts uric acid into urea. Irritable bladder relieved by the permanganate is *relieved* simply—*not cured.* The alkaline carbonates neutralize uric acid excess directly, and indirectly diminish it by their action on the liver. The citrate or carbonate of lithium dissolves uric acid, and is a remedy of undoubted efficacy: (Murchison, Sir Henry Thompson). Colchicum, in small doses, improves the character of the digestive ferments and promotes more perfect digestion, and in this way supplies the liver with better pabulum, thus causing a lessening of the amount of uric acid (Lauder and Brunton). Its action is surprisingly happy in very many cases—but in many other cases it seems to extend the point of tolerance, causing, unexpectedly, a vomiting and violent purging, an effect greatly to be deprecated. Fruit acids are converted into the alkaline carbonates in the blood and become dissolvers of uric acid or diuretics, and in this way are efficient aids in treating the uric acid excess. Many patients will be benefited by a hot lemonade at bedtime, or by eating a lemon before breakfast daily, or by partaking liberally of acid fruit at breakfast and lunch times. The uric acid excess thus relieved can be said to be relieved only—not cured. It is well to use them because they act quickly and satisfactorily. Thus relieved temporarily, the physician can take the necessary time to determine where the ultimate cause of uric acid excess lies and select remedies to cure it. The systemic defect is usually the ultimate cause and will be found in the primary or secondary assimilation. Constipation is almost always a conspicuous symptom in these cases. Its resultant evils include stomachic and intestinal indigestion. From it results a condition of blood poisoned with excretory material, which causes all functions of the abdominal organs to be imperfectly performed. The secreting cells of the liver fail to elaborate their products perfectly, and from this failure arises the uric acid excess. A thorough catharsis temporarily relieves all of these symptoms, and it is an exceedingly unwise thing to do to use powerful purges, because they are of only temporary benefit. The course to pursue is to

give a daily laxative, and thus by degrees purify the blood and secure a sustained functional improvement in the organs of primary assimilation. To this end, the daily use of Rakocszy, Hunyadi Janos, Friedericshall, or Victoria mineral water in warm weather; or of aloes, podophyllin, cascara sagrado, compound extract of colocynth, compound liquorice powder, or euonymus, in cold weather, will be useful. To improve the secondary assimilation we can resort to the use of bark and iron, arsenic, strychnia, minute doses of mercury when not contra-indicated, and coca. Of prime importance in these cases is the management of the diet. Farinaceous articles and acid fruits should be largely used, and only as much of the albuminous articles used as can be thoroughly digested.

Irritable bladder arising from *triple and amorphous phosphates* should be treated by treating the systemic condition producing them. They are usually found in diseases of the nerve centers and after great mental application. They generally suggest the use of rest, ergot, galvanism, massage, tonics and improvement of alimentation.

Oxaluria should be treated by paying especial attention to the "moral, mental and physical condition, and time must not be wasted in treating a mere symptom:" (Skeene). Strychnia and the mineral acids will yield the best results.

Cases involving *diabetes* or *albuminuria* call for treatment addressed exclusively to these conditions.

Irritable bladder arising from causes enumerated, 7th to 9th, inclusive, must be treated according to indication wholly, which consists in the removal from this viscus of these foreign substances.

Cases involving *cystitis, acute or chronic*, the 10th cause enumerated, are troublesome enough. Some patients will make rapid recoveries. But by far the largest majority of them will prove rebellious. The urine in these cases must be rendered alkaline as speedily as possible. Citrate of potassium, in as large doses as can be borne without causing stomachic distress, is an excellent remedy. The removal of existing constipation by daily laxative doses of mineral water upon arising mornings, is of importance, as it secures a systemic condition favorable to producing

urine of minimum acidity, after which smaller doses of the citrate of potassium will suffice to produce alkalinity of the urine. At the same time, restricting the diet to articles calculated to aid in avoiding acid excess in this excretion, should be prescribed. An exclusive milk diet has cured cases of long standing and of great severity. Alkalis, minim doses of tr. cantharides, hourly, twenty grain doses of bromide of ammonium, the solution of bromohydric acid, benzoate of ammonia in buchu, laxatives, proper diet, quietude, will relieve most cases of irritable bladder from *acute* cystitis.

The irritable condition arising from *chronic* cystitis, requires a wider range of remedial measures to meet all cases. Many women, however, are never cured, failure arising from many causes, as lack of pertinacity on the patient's part in submitting to treatment, dyscrasia, failure to apprehend and to remove coexisting disorders which sympathetically propagate the cystitis, etc., etc. Frequent urinalyses are necessary to guide us in the administration of medicines, internally. Acidity is to be modified or abolished by alkalis. Urinary decomposition calls for the sulpho-carbolates, for alyptus globulus, or for salicylate of sodium. Medicated injections into the bladder are all important in chronic cystitis. A long range of remedies is before us to select from. Antiseptic injections include solutions of common salt, potassium chlorate, carbolic acid, salicylic acid, eucalyptol, and the sulpho-carbolates. Astringent and alterative injections embrace silver nitrate, hydrastis canadensis, tannic acid, plumbic acetate, iodoform, sulphate of zinc and potassic iodide. Forcible dilatation of the urethra, self-retaining catheter and cystotomy are resorted to only after other means have failed.

Cases involving cause enumerated 11, will never be relieved permanently. Opiates or chloral may be used.

Polypi must be removed. No remedies can be resorted to in cases of too frequent urinations caused by polypi.

Cysts and tubercles are rare vesical troubles and usually cause irritable bladder. General tonics to abrogate the systemic condition producing them, and opiates to alleviate the irritable condition seem to be the remedies demanded.

Hypertrophy of the bladder, a not uncommon cause of dysuria and polyuria, must have its cause removed. Tumors and cystocele must be treated *secundum artem;* neuralgia or any functional disorder operating to cause this condition, must be considered and treated before the irritable condition can be removed.

Urethritis, acute or chronic, is a most troublesome condition to remove. The acute form generally calls for the same sort of management accorded to gonorrhœa in the male. The subacute or chronic form calls for injections, alterative and astringent. The utmost patience is necessary to *cure* cases of chronic urethritis.

Neoplasms demand surgical treatment. The general condition of the patient's health can be greatly improved by medication. Tumors or pressure in any way retarding venous circulation from the pelvis demands attention and removal if possible. Removal of the neoplasm will relieve the patient of the irritable bladder.

Cases involving causes numbering from 17 to 21 inclusive, suggest their remedies, which are surgical or mechanical.

The treatment of cases of irritable bladder produced by extrinsic causes is included in the management of those causes. The fact cannot be emphasized too much, that the most troublesome aspect of the treatment of irritable bladder in women is the ascertaining of the *cause*. The cause being determined, the principles of treatment are usually very simple.

Article III.

New Umbilical Cord Repositor. By P. O'Connell, M.D., Sioux City, Iowa.

The accompanying drawing represents the tip, actual size, of an instrument intended as a repositor of prolapsed funis. This simple device is made of a smooth piece of flat whalebone, sixteen or eighteen inches long, one-fourth of an inch wide, and about half a line thick, with the sharp edges rounded off.

One inch from the top, a hole one-eighth of an inch diameter, is drilled through the whalebone. Half-way between the hole and the point, the edges are cut away a little, making a slight shoulder; the point is nicely rounded, yet not at all sharp.

These proportions make an instrument sufficiently strong to carry the cord up beyond the presenting part, yet flexible as well as thin enough to be left *in utero*, without doing harm, until the presentation has advanced far enough to prevent any subsequent descent of the funis; or even until the completion of the second stage of labor when it will be expelled with the child.

The instrument is quickly and easily applied thus: Take a piece of narrow tape or soft twine, at least twice the length of the whalebone; double it, and pass the double through the hole. Pass the point of the instrument *under* the funis; make a snare-loop of the doubled string passed through the hole, and slip it on the point down to the shoulder, *over* the funis, drawing the snare-loop pretty tightly on the point of the whalebone. The free ends of the tape are drawn just tight enough to hold the funis snugly without diminishing the circulation in it, and loosely wound round the instrument a few times and held from slipping through the hole while the cord is being replaced. The funis, lying on the flat surface of the instrument between the hole and shoulder, is kept there in place by the string over it, and is then pushed up into the uterus beyond the presenting part, the whole process being completed in one or two minutes.

The slight shoulder near the top of the whalebone prevents the snare-loop on the tape running down too far and compressing the cord too much. By loosening the free ends of the tape a little, and rotating the instrument at the same time that slight traction is made on it alone, the snare-loop will slip off the point, freeing the funis, when the whalebone and tape are withdrawn from the

uterus. The advantages of this little device are, that the funis can be replaced quickly, and with certainty, and without placing the woman in the awkward genu-pectoral posture as usually advised.

Any one can make the instrument for himself, as I have done, in an hour. Whalebone of the proper width and thickness can be purchased at any dry-goods establishment, and only needs finishing.

ARTICLE IV.

ETIOLOGY OF INEBRIETY. By T. D. CROTHERS, M.D., Supt. Walnut Lodge, Hartford, Conn.

The acceptance of every new truth in medicine affecting the interest of the masses, is through the ordeal of ignorant opposition and criticism. The recognition and acceptance of the truth that insanity is a disease, was over half a century passing this period. Yet within a year the same ignorant criticism has appeared in several newspapers, urging that the insane should be held personally responsible, and punished for their acts, and not housed up and treated as sick men. The truths of the disease of inebriety are passing through the same stage. The most confusing theories, and absurd assumptions and denials, not based on any reliable studies or facts, prevail. The study of inebriety is yet in its infancy, and it is impossible from any experience or study at this time, to do more than outline some general landmarks, which stand out prominently above the wide ranges of hill and valley entirely unknown. I propose to group some of the general facts which have been noted by many observers, in the field of causes, for the purpose of showing, not how much is known, but rather the vast continent as yet unexplored, on the borders of which scientific inquiry is gathering to enter this realm, and point out the truths of this almost *Central Africa* of medical and social science.

Every case of inebriety is marked by some cerebral defect, and enfeebled will-power, with perverted nutritive functions

which begins back in some special condition or event, effecting both the structure and function of the organism. Every case will be found to follow a certain progressive march from stage to stage, with long obscure halts, or rapid strides to chronicity and death. Both exciting and predisposing causes are at work; the one may produce changes of functions and structure, which may bring on disease, or awaken latent tendencies to it; the other may induce such a state of the system inducing this disease, or weakening the power of resisting all morbific agencies which end in this malady. As in all diseases the causes all run into each other, often beginning in the organism, and in other cases in the mind, ranging over the entire field of mental pathology and closely allied with all forms of insanity. The causes divide most naturally into three classes or groups: *First.* Causes which come from inheritance, direct or indirect. *Second.* Such general causes followed by inebriety in common with insanity. *Third.* Special conditions and circumstances which favor the development of inebriety.

First.—Hereditary influence. No other disease is more certainly transmitted, not in the desire, always, for alcohol or its compounds, but in nerve degenerations and perversions, which sooner or later break out in inebriety depending on some obscure conditions. The very poor and the very wealthy furnish the most striking illustrations of this fact. The former who not only suffer from irregularities of hunger and satiety, with bad quality and conditions of food, but perverted nutrition and diminished vitality, always transmit inebriate tendencies; the latter through continuous stimulation and excess, with neglect of healthy activity of both body and mind, develop nutritive degenerations both functional and organic, which appear in the next generation in inebriety. Both occupation and mental condition at the time of procreation are active factors in the causation. Persons who are engaged in intense mental work, and leading a sedentary life, such as literary men, clergymen, bankers, book-keepers, etc., have often inebriate descendants. Inebriety not only follows from inebriate parents, but from excitable nervous persons, who have an unstable mental organization, with disordered emotional faculties, and unbalanced nutritive functions

manifest often in a capricious irregular appetite for unusual foods and fluids, etc. An inebriate diathesis can be noted in many cases, which from the absence of some special exciting causes do not always develop into inebriety. This can be studied in the practice of any physician, for there are many persons in every community who possess all the latent tendencies to inebriety; nothing but exposure to some peculiar exciting causes prevents them from being inebriates. Not unfrequently persons discover this peculiar diathesis, and avoid with great care all temptation, or conditions of surroundings which encourage the use of spirits. This diathesis is not unfrequently associated with general organic degeneration, marked by anæmia, neuralgia, affections of the heart, rheumatism, dyspepsia, tubercular deposits, and constant tendency to exhaustion, etc. The intellect is active, but uncertain, changeable, vain, sometimes with the force of a genius, and the weakness of a child, but always emotional, sensitive and sympathetic. The body and mind are developed out of proportion, unnatural special developments are present, the functional activity is intense, and they are either on the verge of eccentricity, or abject feebleness.

Second.—Such general causes from which both inebriety or insanity may follow. Of these traumatism or positive injury to the brain, or spinal cord, has been noted in many cases. These injuries are followed by alterations of nutrition, exhaustion, physical pain and depression, for which alcohol acts as a pure sedative and is taken as food, is used to relieve the cravings of hunger. Blows on the head, and injuries to the nervous trunks are often followed by inebriety. A previously temperate man falls striking on his head, or receives a blow which is soon forgotten, but he becomes a different man, and an inebriate without any reason or cause that can be seen by his friends. I have noted many cases of inebriety from railroad accidents, where the concussion and alarm were sudden, causing intense reaction and excitement, and yet no physical lesion was apparent. Injuries to distant parts of the body, react by some unknown law in inebriety. A chaplain in the late war was injured in the leg, and drank spirits to intoxication for two years until the wound healed, then became a temperate man. A physician was thrown

from his carriage, suffering from a broken arm, and became an inebriate at once. Many months after he reformed, dating from the healing of the injury. Four instances have been noted where the expulsion of a tape-worm was followed by complete recovery from the inebriety, indicating the influence of this as a cause. Other cases have been noted in which irritation from uterine troubles, and disturbances of the genital functions have appeared in inebriety. During pregnancy and lactation excessive craving for alcohol is not uncommon. There is a field of causes along the line of traumatism which, in my opinion, will throw great light on the obscure cases, and explain much that is now unknown. Conditions of degeneration and impairment of functions, either inherited or acquired may exist, which break out in inebriety either gradually or suddenly, from a train of causes that are inadequate to explain such results. The brain and nervous system has lost some power of restoration by which its integrity is preserved, or it has taken on certain conditions favorable to the development of inebriety or insanity. This may be illustrated in the physical condition following a severe attack of pneumonia; the lung power and function of respiration is defective ever after, although it cannot be defined. After an attack of typhoid fever, the patient is fully aware of impairment of force, and a want of something which existed before, although his recovery seems complete. Injury to the brain, or severe organic maladies, leave an entailment which influences the organism and mind after. Sunstroke, the toxic action of alcohol or opium, paroxysms of grief, fear, alarm, joy, may have the same effect. The inherited defects may only appear in this form; epilepsy, insanity in all its many phases, and inebriety, all indicate a brain soil differing from that of a sound person. In all these cases there is something wanting to make up cerebral health, which can only be determined by careful study in the future. I have long been convinced that the results of previous diseases were active causes in inebriety. Intermittent and malarious fevers, acute rheumatism, many of the diseases of the stomach, liver and kidneys, will be found to end in inebriety. Persistent neuralgias often break up the mind-centers, and produce exhaustion for which alcohol is found to be almost a panacea, and inebriety follows with great certainty.

Dietetic disturbances are frequently associated with the beginning of inebriety. This is apparent in the close relation of the nutritive functions and the nervous system. Dyspepsia, with all its train of perverted sensations and tastes, passes most naturally into inebriety. Excessive hunger and thirst is followed by conditions which end in inebriety. Practically any disease which breaks up the nutritive functions, causes perversions and cerebral disturbances, predisposes to inebriety in many cases. The history of inebriety is very often one of neglect of proper nutrition and general hygienic care at the beginning, then the use of beer and stronger alcohols follow. Exhaustive intellectual or physical exertion, develops either inebriety or some other form of cerebral disturbance. Scholars and students often exhibit strong tastes and longings, indicating an unbalanced mind and body, on the verge of inebriety. A prominent senator spent thirty hours in the preparation of a speech, and was an inebriate from this time; the proprietor of an ice-house tempted his workmen to continue work over forty hours continuously without much rest; two out of five men became inebriates from this occasion. A clergyman who worked excessively in a revival for many weeks was an inebriate from this time. A farmer who was overworking in the harvest field for many days drank large quantities of ice water, suffered from colic, then drank and died of inebriety two years after. Loss of property, disappointment, social or financial, grief, religious excitement, an unbalanced mind and misdirected education, are all active causes entering into the origin of inebriety. Many things in our systems of education lead directly to this end. The unphysiological methods of teaching, in bad surroundings, are the fertile soils for perverted tastes, and ignorant eccentricities from which both mental and physical dyspepsia follow; then the door is open for inebriety or some of the insanities. The dangerous ambition to sacrifice everything for wealth, power or place breaks up all healthy living, and inebriety is the result of both failure and success. Any special train of causes which break up the normal activity of the body is followed by exhaustion, and a craving for means to build up against this loss. Often this is manifest in nutrient desires, or nervous depression. For both these states alcohol in any form, either as bitters or in beer, acts as a sedative, and inebriety is thus begun.

Third.—Special conditions and circumstances which favor the development of inebriety, and which are noted in the majority of cases. Of these, certain periods or ages are more dangerous than others. This is founded on the physiological eras in the organization, or stages of development and decline, which have pathological relations that influence both the nervous and nutrient system. The first most dangerous period is puberty. Prolonged sexual excitement at this time is the beginning of inebriety which may not break out until full manhood. Intoxication after sexual intercourse at this period, powerfully impresses the organism with a distinct predisposition to inebriety. Later in adult life when the struggle is at its height, and all the faculties are intensely occupied, the ambitions, disappointments and changes are sudden and far-reaching; when confidence in the physical and mental powers of recovery cause recklessness of effects, then the body is extremely susceptible to inebriety and conditions which develop this malady. At this midland station between the weakness of infancy and the decline of old age, when the brain and nervous system has reached its fullest activity, both the inherited and exciting causes may concentrate in this disorder. Dr. L. D. Mason, of Fort Hamilton, N. Y., found these periods of greatest danger to be from fifteen to twenty-five, and from thirty to thirty-five.

Surroundings have a very potent influence in the production of inebriety. Mental states that give no time for change or rest, with monotonous tread-mill thoughts over and over again, as light-house keepers, men on the frontier, farmers far back in the interior, workmen who are closely confined to some special circle, telegraph operators, etc., where for years the same unchanging mental conditions exist. Or, on the other, between continuous change and strain to accommodate the mind to the ever-shifting scenes that appeal to the reason and emotional faculties: as, for instance, speculators, railroad and professional men, who are occupied a large part of the time, without chance for rest and change of thought. The influence of social surroundings which are degenerating and dwarfing of all the better elements of nature, are dangerous. Low society and company follows either after inebriety has begun, or is associated with a defective brain and

enfeebled moral power before alcohol is used. Domestic troubles, changing conditions of life, stimulated by pride or ambition, all help to break up the normal state of health. How far these and other circumstances of a social character enter into the causation of inebriety is not determined; but it is clear that the mind and the condition of the nervous system are very large factors in inebriety not now recognized.

The physical surroundings have a very potent influence in these cases. Temperature is often an active cause. High degrees of heat and cold may so far impair the nutrition of the nerves as to produce paresis of the vaso-motor centers, ending in inebriety. Men in profuse perspiration suddenly cooling off have become inebriates. Firemen exposed to great heat often suffer in this way. Men employed on the *South American steamers*, that ply between New York, Boston and the tropical ports, where the extremes of climate, heat and cold, alternate in rapid succession, from the frequent polar temperature of New York, to the summer tropics, soon become inebriates. Regularity and equality of food have great influence in the causation. The moment the proper nutrition of the body, both as to time and quality of food is disturbed, the soil is made ready for inebriety. Eating at irregular times, as among business and professional men who are closely engaged in absorbing work, brings on nutritive perversions; and when the character of the food is imperfect for the nourishment of the body, still further departures from health follow. If with these factors are associated unhealthy sleeping rooms, and places of business, bad air and damp unpleasant surroundings, a train of causes are at work of which inebriety is almost certain to follow. The disturbed nutrition of the body, followed by conditions of neurasthenia precedes inebriety, and every unsanitary condition intensifies and fixes this state. Certain kinds of labor, in bad surroundings and living, are also factors tending towards this malady. As, for instance, tobacco-raising in certain river bottoms in the South-west; coal mining in particular districts of England and Pennsylvania; and some kinds of manufacturing in the eastern states, etc. There are, in these, and other physical states, combinations of causes unknown at present, where inebriety, pauperism insanity, and crime often seem to flourish indigenous. There are

many forces which govern the wants of the organism, that cannot be understood to-day. The influences of the mountain, or sea air, of the effect of the winds, and degrees of heat and cold, the presence of storms and electrical changes in the air, are all noted in those who suffer from mental diseases, and among inebriates; but how far they enter into the early causation, the student of the next century must determine. In the reports of the early insane asylums, bad temper was put down as an active cause of insanity. Now this is understood as an early symptom of disease and departure from mental health. To ascribe the first cause of inebriety to sociability, association, bad company, etc., is equally an error. These are only accidental circumstances and coincidents, which, in a certain proportion of cases, both fix and explode a long train of causes, gathering from the past and present. The causes of inebriety must be sought farther back than the statement of the patient, or his friends. His entire life must be studied, and the evidence of heredity carefully weighed, and all the circumstances of his mental, physical, social, and sexual life examined. From this only can be ascertained the causes which are formative in one of the most widespread diseases of this age. Inebriety is undoubtedly associated either as a symptom or cause of insanity in many instances, but in the vast proportion of cases it stands out alone, as a distinct disease. The complex causes which govern its march, and the obscure influences which seem to select the men of genius and talent, and those representing the other extreme of mental capacity, hurrying them on to destruction; the pathology and the symptomatology, and the prognosis and treatment, are all in an unknown realm. Standing on this border-land, the evidences of the domain of law rich in physiological fact are apparent. When an accurate study shall clear up the fog and superstition, and inebriety and its nature will not be a question of opinion or theory, then its physical and psychical origin will be understood. Stretching out from these outline hints of causes, the medical study of inebriety gives promise of a new era in science and civilization. Some of the facts made prominent may be stated thus:

1. Inebriety is a cerebro-psychical disease, beginning in some cerebral defect in alteration of function or structure.

2. The causes are numerous and complex, blending with each

other, and depending upon many and unknown physical conditions, either inherited or acquired.

3. Its etiology must be studied from a physiological point of view, by medical men, and only from the observations of years, and the experience of many accurate observers, can it be understood.

ARTICLE V.

A CASE OF "CYANOSIS." By M. H. SEARS, M.D., Leadville, Colorado.

R. B., æt. five and one half months, was the child of parents apparently healthy. The father, a man of about thirty-three years of age, is free from tubercular or syphilitic taint, and temperate. The mother also free from taint, and previous to the birth of this child primaparous, is twenty-five years of age.

She states that the child was born at term with the aid of forceps—applied in the superior strait—after a labor of thirty-six hours duration. The child was apparently well developed, weighing about eight pounds, and made efforts to nurse during the succeeding twenty-four hours. The mother suffered from depressed nipples, and had very little milk to offer the child, so that its endeavors proved partially futile—the bottle being resorted to, to supply the deficiency. The mother, however, persevered in her endeavors to nurse her child, but at the end of about ne month desisted, and resorted to the bottle entirely as a means of its subsistence. Upon this diet it seemed for a time to thrive, but finally each of the artificial "foods for infants" was tried, only to be succeeded by other diets, none of which were successful.

When the child was about two weeks old, a peculiar bluish hue was noticed over the entire integumentary surface, and particularly was it noticed when the child was excited, as in crying. Nothing was thought of this symptom for the time being, but as this "cyanotic hue" increased and became very noticeable over the scalp, it was the subject of remark.

With the appearance of the hue the digestive function partially failed, and a crop of furuncles, varying in size from one-eighth to one-half an inch in diameter made themselves manifest. These were lanced, and poured forth a quantity of semi-decomposed pus, often tinged with blood. The bowels moved from two to six times in the twenty-four hours, and presented upon examination quantities of mucus and some fecal matter,—nothing, however, of value for diagnostic use.

At the time these conditions were noted, the child was four months old, and at this time it came under my observation. I found it very much emaciated, weighing less than it did at its birth, and vomiting within a very short time after anything was introduced into the stomach.

Upon physical examination the lungs revealed the normal vesicular murmur, the præcordia normal in its boundaries, as nearly as I could judge, as the child was "pigeon breasted;" the heart-sounds normal, except the sound occurring at the pulmonic orifice; this was at times wholly suppressed. Care was taken not to confound the sound of the aortic with that of the pulmonary when the latter was present. The aortic, on the other hand, was always normal and never gave evidence of being compromised in auscultation. With these facts before me, combined with the external symptoms, I made the provisional diagnosis "cyanosis." I immediately took steps to see if the error in the nutrition could be corrected, and prescribed a watery extract of beef prepared in the following manner:

One pound of lean beef finely chopped; one quart of cold water.

The beef was macerated in the water for six hours, strained, and the remaining liquid concentrated to one pint by boiling.

Of this extract, a teaspoonful was given every half hour. In conjunction with this diet, a powder consisting of bis. subnit. grs. v; and hyd. chlo. mite gr. ss, was given morning and evening. Under this plan of treatment the weight of the patient increased, the nausea and vomiting partially stopped, the stools became normal in color and consistency, and I had great hopes that I had adopted a plan destined to at least nourish the patient. But in time this failed, and I had to order milk, which I took

pains to see was obtained from one animal, young, new pasture fed, and well cared for.

To each quart of this milk, liq. calcis ℥ ij. was added and the child allowed to nurse it from the bottle,—the milk previous to being introduced into the bottle was warmed. Nourishing enemata were also given and retained; his diet was carried out with varying success during the continuance of the case. Acid. hydroch. was tried very successfully, as an anti-emetic, in place of the bismuth salt, but its depressing action on the heart did not lead to its general use in the treatment of the case, although it proved itself fully able to check the distressing nausea and vomiting.

With these measures, the patient continued to improve slowly, but an unlooked for attack of cholera infantum aggravated all of the previous symptoms; and notwithstanding appropriate treatment was pursued to check it, the patient died in an asthenic condition. At the *post mortem* the following were the essential conditions:

The heart normal in size, general appearance, and situation; aorta, vena innominata and pulmonaries normal; ductus arteriosus impervious. An examination of the interior of the heart revealed the foramen ovale unclosed, and the Eustachian valve about as it would be in fœtal life—the perviousness of the foramen being the essential pathological condition.

Another point noted was the condition of the walls of the ventricles. The wall of the right was so thin and fragile as to be torn very easily. This probably arose from partial non-use of the ventricle, on account of much of the blood passing through the foramen causing a partial atrophy. The walls of the left ventricle on the other hand were large, very thick—muscular hypertrophy from over-use; the valves normal apparently. At the time of death, child was six months old lacking five days.

THE *Atlanta Medical and Surgical Journal* will be issued in future as the "*Atlanta Medical Register.*"

H. H. DICKSON, Publisher.

ARTICLE VI.

VACCINATION: A CONSIDERATION OF SOME POINTS AS TO THE IDENTITY OF VARIOLA AND VACCINIA.

By HENRY M. LYMAN, A.M., M.D., Chicago, Ill.

I have read with much interest the article under the above title, by Dr. Thomas F. Wood, in the October number of THE CHICAGO MEDICAL JOURNAL AND EXAMINER. It presents in an excellent manner the objections to the hypothesis of the identity of variola and vaccinia, reinforcing the same with a number of original observations and experiments by the author. His conclusions are essentially those which have been formulated by Professor Chauveau, and have been frequently reiterated by Dr. Henry A. Martin.

It is, in the first place, very evident that the author of the paper under consideration is somewhat embarrassed by the multitude of his unclassified facts. The meaning to be attached to the words *identity* is also a source of confusion. It should be kept in mind that in a discussion regarding scientific classifications in natural history, the words *identity* and *identical* are used in at least two ways. It is right to speak of objects as being *generically* identical, though they are *specifically* distinct and different. In the same way objects or creatures which are specifically identical are nevertheless differentiated into well defined varieties. Domestic sheep, for instance, are all identical in their species, but there are numerous varieties—as Merinos, Southdowns, Cotswolds, etc.

Now variola presents itself as a disease which is capable of existing in numerous different species of animals, and its phenomena vary accordingly. I will not at present discuss the question whether such variations are sufficient to constitute different species, or whether the modifications should be only ranked as varieties of one species. For many reasons it will be convenient to use the term *genus* as applied to the original form of the disease. Smallpox, then, would be the generic form of the disease; horse-pox would constitute one species; cow-pox another; sheep-pox a

third; and so on indefinitely. All these different forms of disease, having one common origin, would be generically the same, though specifically different from each other. Something of this sort is what is intended when we speak of the identity of vaccinia and variola.

Dr. Wood contends, however, that small-pox and cow-pox are not thus identical; and he adduces four objections upon which his opinion is based:

1. *Because cow-pox has never been converted by any means into small-pox.*

In reply to this I would say, that the efforts of experimenters have never yet been knowingly turned in this direction. The fact that a thing has never yet been done is no proof that it cannot be done. But, according to Dr. Wood himself (p. 354), the thing has been done with great success. If his experiment at the Wilmington Small-pox Hospital was not a case of conversion of cow-pox from the cow into small-pox in the child, it is impossible to say what it was.

2. *Because, in the light of the attempts made by many careful and truthful experimenters, to produce small-pox by the inoculation of the cow with small-pox virus, the number of failures on the part of such a very large majority of them, together with the numerous positive denials made of the possibility of success, it may be concluded that small-pox virus is never converted into vaccine by transmission through the cow.*

It is very true that many experimenters in this matter have failed again and again in their efforts to variolate the cow. But it is also true that when the correct method has been employed it has yielded a successful result. Witness the interesting experiments of Mr. Badcock, the English druggist, who, after many failures, finally taught himself the proper way to variolate the cow. He made use of the best variolous virus that his physician could furnish, and his experiments were successfully repeated until he had vaccinated 14,000 children with the resulting vaccine virus, and had supplied it to not less than 4,000 physicians. Such results do not look like failure to procure vaccine virus through variolation of the cow.

3. *Cow-pox does not become epidemic, nor does it spread by*

effluvia from the human subject. It is always confined to the point of insertion in the human subject, never producing a general eruption of vaccine vesicles.

It is difficult to discover the relevancy of this proposition to the present discussion. Cow-pox never spreads by effluvia among cattle, even though it be the result of actual variolation with small-pox virus. This is one of the evidences of the modification of that virus by cultivation in the body of the cow. The statement that cow-pox never produces a general eruption of vaccine vesicles is a little too sweeping. Active vaccine virus does occasionally produce a somewhat general eruption, just enough to show its kinship to variola.

4. *Structurally considered, the vesicles of vaccination and the pustules of inoculation are very dissimilar.*

This fact cannot be urged against the identity of cow-pox. The structure of the vesicle depends upon the kind of animal on which it is developed, and upon the manner in which the virus is introduced into the body. By inoculation with variolous virus a pustule is developed on the human body which is almost identical in appearance and in its course with the results of a similar inoculation on a horse or a cow. In fact the vesicle of ordinary cow-pox is really an inoculation vesicle, for the cow seldom contracts the disease in any other way than by direct insertion of the virus, either accidentally or by design. The energy of the virus which is thus introduced is so weakened by the local processes of vesiculation that it does not produce any extensive eruption like that which often follows inoculation with small-pox virus in the human subject. This fact shows that the complete evolution of small-pox is subject to modification in accordance with the nature of the animal in which the process is carried out.

The great source of difficulty and obscurity with authors like Chauveau, Martin, and our friend Dr. Wood, lies in the fact that they do not perceive that variolous virus, like all other forms of virus, is a very mutable substance. It is continually liable to dilution and reduction of energy. It may again be vivified and made more energetic, once more to experience attenuation; and so on indefinitely. Trousseau's experiments, as related in his interesting chapter on cow-pox, are remarkably instructive. Inoculating

children with small-pox virus, and transmitting the virus from one to another in successive "cultivations," he found a continual tendency to milder manifestations of the disease in each successive crop. But occasionally there would be a reversion to the original type, and a child which had been inoculated with a mild form of the virus would be attacked with a malignant form of small-pox. The cause of such reversions was not discovered by Trousseau, and I will not now delay for its explanation. I simply wish at present to call attention to the progressive mitigation of the disease which is the ordinary result of its artificial propagation. This mitigation is still more apparent when the disease is communicated from man to the lower animals. According to the experiments of Thielé, such mitigation of the virus may be obtained without cultivation in the body of any animal whatever, by simply diluting the virus with milk after keeping it for ten or twelve days between two glasses. Dr. Wood quotes this observation (p. 350) only to discredit it. We might very easily do so, were it not that the recent experiments of Pasteur with anthrax virus render the statements of Thielé perfectly reasonable and probable. This subject, however, will soon be experimentally investigated by Burdon-Sanderson, for whose results we can wait.

Recognizing the fact that small-pox virus is capable of attenuation by successive cultivations, we can easily comprehend the manner in which such apparently irreconcilable experiments as those of Gassner, Thielé, Ceely and Badcock can be harmonized with the equally trustworthy observations of Chauveau, Wood, and others. When small-pox virus is first inoculated upon the cow, the product is a virus but one degree removed from its original intensity. If such virus be used for vaccination of the human infant, the result will either be small-pox, as Chauveau and Wood saw, or it will produce a very severe form of vaccine-disease, as was the experience of Ceely. But if this virus be still further attenuated by repeated transmissions from one cow to another, or from horse to cow, as was so common during the centuries before Jenner, the virus will be so far diluted that it will never give origin to small-pox when transplanted to the human subject. In ike manner, Ceely found that the virus which he produced by

variolation of the cow, though exccedingly energetic at first, even lost its dangerous energy by successive transmission from one child to another, so that after the fourth or fifth remove from the cow it was perfectly manageable, and as mild as ordinary Jennerian virus.

As for the origin of cow-pox in the cow, it is now recognized that, whatever its mediate source may be, its primitive source is small-pox. Derived from horse-pox, it only occurs when the milker of the cow is also the attendant upon a greasy horse. Sometimes, but rarely in these days, it may be derived from inhalation of air charged with variolous human excreta. When neither of these sources of contagion are active it may be traced to contact with the products of human vaccination among the milkers. Thus it is evident that, besides artificial variolation, there are at least three ways by which cow-pox may be originated in the cow. The resulting disease is characterized in every case by the same phenomena, showing that the species is the same notwithstanding the diversity of the mediate sources through which it was evolved. Cow-pox is cow-pox, no matter what may have been its immediate antecedent. But that it constitutes a species with varieties of individual manifestation is evident from the diversity of its intensity when transplanted into the human subject—a diversity which, as we have seen, is largely dependent upon the antecedent history of each specimen of the virus. Moreover, since the tendency of successive transmissions of virus though the cow is in the direction of mitigation of the successive crops, it follows that in time the product of each transmission must deteriorate just as vaccine-virus has deteriorated in the human subject. It will then be necessary to revert once more to a point nearer the original variolous source, in order to recruit the energies of our vaccine stock. This we can always accomplish in future by variolation of the cow, if Beaugency heifers cannot be discovered when needed. Guided in the preparation of such virus by the experience of the past, it will be an easy matter to avoid the difficulties and the dangers which lead men like Dr. Wood to entertain no little esteem for such a means of renewing the energy of vaccine virus.

There are many other interesting and practical thoughts suggested by consideration of this subject, but I have not time for their presentation. To those who are interested in this important matter, I can recommend perusal of Trousseau's fascinating chapter on Cow-pox, the article on Vaccination, in the seventh volume of the Real-Encyclopädie der Gesammten Heilkunde, the various reports on anthrax vaccination by Pasteur, Greenfield, Toussaint, and others; and, lastly, an essay on Disease Germs, by Dr. W. B. Carpenter, in the October number of *The Nineteenth Century*.

ARTICLE IV.

THE PATHOLOGY AND TREATMENT OF YELLOW FEVER; WITH SOME REMARKS UPON THE NATURE OF ITS CAUSE AND ITS PREVENTION. By H. D. Schmidt, M.D., New Orleans, La. (Concluded from page 394, October No., 1881.)

Aside from the medicines above mentioned there will, in the great majority of cases, be no further demand for others during the remaining part of the course of the disease; henceforth, the physician must concentrate his whole attention upon the study of the clinical phenomena of the case, and upon the close superintendence of the nursing of the patient; and, to accomplish this task properly, he must not limit himself to general directions, but, moreover, explain to the friends or nurse the importance of closely watching the case. He must, furthermore, take the trouble of *giving them a detailed account of the phenomena which might manifest themselves during his absence*, and what should be done in such event to meet them before he is able to see the patient himself. Yellow fever, as we have seen, is a disease of a rapid course, in which the gravest pathological changes may take place in the space of only a few days, and, if anything at all can safely be done to ameliorate the noxious effects of the poison, it must be done during the febrile stage of the disease.

With the progressive rise of the fever the patient becomes more restless, particularly from the sensation of the increased amount of heat retained within the organism, while at the same

time a delirium will gradually set in, slight at first, but generally increasing in violence with the progress of the disease. It is hardly necessary to repeat that the appearance of the delirium indicates the abnormal afflux of blood to the head, and the beginning of the hyperæmia of the brain, which, if passing beyond certain limits, will necessarily cause the death of the patient. Therefore, as soon as the temperature of the scalp commences to rise, applications of cold water should be made to the whole cranium. A towel, twice folded to obtain four layers, and *large enough to cover the whole head*, saturated with ice-water, will answer every purpose. These applications, if conscientiously made and attended to, I regard as the most important point in the whole treatment of the disease, though, if *irregularly* and *carelessly* applied, they will fail in their purpose. In order to avoid all interruption in their applications, there should be two towels in use, one of which to be in the ice-water always ready for application, as soon as the other is removed from the head. The most convenient method for keeping them always cold is to put a large piece of ice in a wash-basin containing just enough water to submerge the towel. In many cases it will be found that the heat of the head is so great as to warm the cold cloth in a few minutes. Though it is a difficult task to keep the head of the patient covered with the wet cloth while he is in a highly restless condition, even laboring under delirium, tossing his head from side to side, and frequently changing his position, yet *it must be done*, for if omitted during the *height* of the delirium, even for a short time, it may be followed by fatal consequences. It is most important, therefore, that at this period, the patient should never be left alone. The efficacy of these cold applications is proven by the patient becoming more quiet every time a fresh cloth is applied, and by his asking for their renewal, whenever he is in a state of consciousness—even after the febrile stage is over. Great care must be taken in making these applications not *too cold*, which would give rise to the opposite condition of the hyperæmia, a depression of the functions of the brain, no less dangerous than the congestion. For this reason, ice should not be applied directly to the head. To the extent of my observation, ice-water, if properly applied, answers all purposes.

While these ice-water applications serve to keep the hyperæmia of the brain within safe limits, they at the same time reduce the temperature of the body by abstracting a considerable amount of heat by way of the head. With the view of lowering the temperature of the body, it is recommended by many physicians to sponge with cold water, alcohol or any other rapidly evaporating liquid. As I regard the perspiration of the skin as one of the processes by which the poison is eliminated from the body, I have never adopted this practice for fear of putting a check to this process, which itself, by the evaporation taking place, can only promote the discharge of heat from the body. Besides, by indiscriminately exposing the surface of the body to the air, difficult to avoid, the blood-vessels of the skin are apt to contract suddenly and *unevenly*, driving the blood to some interior organ of the body, and increasing there the already existing congestion. It appears to me, therefore, that a cold bath of short duration would even be safer to the patient than the imperfect and unequal abstraction of heat by sponging, as the former, by acting more evenly upon the whole surface of the body, would not only more equally abstract the heat, but also prove a stimulant to the nervous system, especially if followed by a timely reaction of the skin.

For a number of years, now, the cold bath has been very extensively used in febrile diseases, especially in Germany, for the purpose of reducing the temperature of the body. This treatment is based upon the theory that the fatality of the case depends upon the abnormally augmented heat, giving rise to the disintegration of the albuminous substances, and, moreover, causing the various parenchymatous degenerations. Although the statistics taken from a large number of cases, in which the cold bath was used, compared with others of antecedent times and without the use of the bath, evidently show a considerable decrease in the mortality of these diseases, the theory of the fatality of the case depending upon the high temperature is by no means generally adopted. On the contrary, the beneficial effects of the cold bath are by many pathologists attributed to the stimulation which it affords to the nervous system; and this appears to be the true explanation.

"*Warfwinge** of Kopenhagen, who not long ago investigated this subject more closely, expresses the opinion that the dangerous influence of a high temperature upon the tissues, and particularly upon the muscular element of the heart, has never been proved, and that, accordingly, the high temperature in infectious diseases is of little significance; but that the real danger consisted in an excessive formation of the specific poison of the disease. The collected 2,239 cases of typhus fever, of which 357, or minus the complicated cases, 230 terminated fatally. Only in one-eighth of these cases the temperature rose in the last days to 40° C. or higher; in the remaining seven-eighths the temperature was 39 to 40, 38 to 39, or even under 38° C. In considering the earlier stages of the disease it was found that in 52.7 per cent. of the fatal cases the temperature never reached 40°, and in two-thirds of the remaining percentage of the latter it was not higher than 40 to 40.4° only in one-sixth 41° were reached or passed. From this Warfwinge concluded that in typhus fever the degree of the degenerate processes in the tissues, as well as the derangement of the functions of the organs and the nervous system, are not at all proportionate to the height of the temperature. And, as in his opinion, it is not proved that the temperature in the interior of the body can be lowered by cold bath, he furthermore concluded that the cold baths exerted but a small influence upon the course of the disease, and should chiefly be regarded as a stimulus for the nervous system."

Besides, there are other diseases and conditions of the organism, such as tetanus, in which the temperature of the body reaches a very high degree, without promoting the disintegration of the tissues or inducing the parenchymatous degenerations of the organs. Even in febrile diseases the disintegration of the albuminous substances commences, as indicated by the augmentation of urea in the urine, before the elevation of temperature, as has been mentioned before.

Nevertheless, cold baths of *short duration*, and repeated at intervals of time during the hot stage, may prove beneficial in the treatment of yellow fever, if used only for the purpose of

* *Virchow u. Hirsch*, Jahresbericht Jour. das Jahr, 1878. Vol. I, p. 205.

stimulating and equalizing the functions of the nervous system; though I think that they require, in order to render them safe to the patient, more care and attention than could be generally bestowed upon the patients during an extensive epidemic, when trusty nurses are comparatively scarce. The manner in which they should be given I will quote from Liebermeister,* who has used them very extensively. It is as follows: "For adult patients the full length cold bath of 68° F., or lower, is to be preferred. The same water can be used for several successive baths for the same patient; the bath-tub remains standing full, and the water, representing about the temperature of the room, answers the purpose without change. The duration of the bath should be about ten minutes. If prolonged beyond that it becomes unpleasant to the patient, and may even prove a damage to him. If feeble persons are much affected by the bath, remaining cold and collapsed for a long time, the duration should be reduced to seven, or even to five minutes. A short cold bath like this will have a much better effect than a longer one of lukewarm water. Immediately after the bath the patient should have rest; he is therefore to be wrapped up in a dry sheet and put to bed (which may with advantage be warmed, especially at the foot), lightly covered, and given a glass of wine. In dealing with very feeble patients, one may begin with baths of a higher temperature, say 75°, although of course these will produce less effect. A method, especially recommended in such cases, if the surroundings permit, is that recommended by Ziemssen, of baths gradually cooled down, beginning with about 95°, and adding cold water gradually until the temperature is reduced to 72°, or below. These baths should be of longer duration."

"As a rule, in somewhat severe cases, I have the temperature taken every two hours day and night. Whenever the temperature in the rectum reaches 103°, or in the axilla 102.2°, a cold bath is given. As a matter of course, however, individual peculiarities must be taken into consideration. In children, or in persons whom one has reason to suppose capable of great resistance to the influence of heat, the temperature which calls for the bath may be placed higher, say 104° in the rectum, or 103° in

* *Ziemssen*, Cyclopædia of the Practice of Medicine. Amer. edition, vol. I, p. 208.

the axilla. In those, on the contrary, with less than the average resisting power, it may be well to employ the bath before so high a temperature has been reached, and according to the circumstances of the case, give a shorter bath, or a warmer one, or the gradually reduced bath of Ziemssen."

In following the above directions for the application of the cold bath in febrile diseases, however, it should be remembered that they were written in a cold, rigorous climate, like that of Germany; some allowance should therefore be made, on the other hand, for the semi-tropical one under which we live, where most of the people are accustomed to a certain amount of continuous heat of the weather almost throughout all seasons of the year.

It is hardly necessary to pass any remarks on the method of reducing the temperature of the body by permanently placing the patient upon a cot for the purpose of keeping up a continuous spray of cold water over the whole body,—the impracticability of which the inventor proved by paying with his own life for the unphilosophical idea of preventing the perspiration of the skin, and inducing a depression of the nervous system.

As regards the delirium I have to add that, in the epidemic of 1867, I have, in severe cases, frequently made use of a fly-blister to the nape of the neck, leaving it long enough to produce suppuration. The object, as may be guessed, was to invite the blood from the congested brain to the sore. But, although this practice was generally followed by favorable results, I would not pretend to assert that they were solely due to the application of the blister, but rather suspect that the cold applications to the head, used at the same time, contributed their full share. In the succeeding epidemics I omitted the blister, and directed my attention chiefly to the proper application of the cold to the head, of which the results were equally favorable, and without giving so much trouble to the patient, as is always associated with the application of a blister in that locality.

The pain over the bladder, associated with a temporary retention of urine, frequently observed during the febrile stage, is generally relieved by the application of a warm flax-seed poultice with some laudanum poured over it, to be continued until the pain is relieved and the urine commences to flow.

The nausea and constant inclination to vomit during the febrile stage of the disease is very distressing to the patient, and difficult to allay. The application of a sinapism over the epigastrium affords sometimes relief, but not permanently. I have before remarked that the condition of the stomach is a sure index of the condition of the liver, and the latter of the condition of the whole organism; it is therefore important that the stomach should be examined from time to time, in order to ascertain whether it is sensitive to pressure upon it, or not. As long as there is no pain produced by the pressure there is no immediate danger to the patient, while, on the other hand, the production of pain by pressure indicates a highly congested condition of this organ and a considerable fatty infiltration of the liver, which possibly may be accompanied by a rupture of the minute vessels of the mucous membrane of the stomach, giving rise to black vomit. As soon, therefore, as the least tenderness is noticed, such measures as will induce a revulsion from that organ to the skin should at once be taken. In many cases a mustard cataplasm answers all purposes; in others, however, the emplast. cantharides must be resorted to.

In order to allay the thirst of the patient, small fragments of ice may be given to be dissolved in the mouth, or even to be swallowed entire; the moderate cold thus produced upon the mucous membrane of the stomach may contribute to restore to a certain degree the tonus of the minute blood vessels. The ice, however, must be given with discrimination, as an excessive cooling down of the stomach might at the same time exert a depressing influence upon the sympathetic ganglia of the solar plexus, situated in the close vicinity of this organ. The same danger will accompany the application of solid ice to the epigastrium for the purpose of arresting the black vomit. If the latter really occur, the most reliable remedy, perhaps, is the swallowing of small pieces of ice. Iced champagne is a favorite remedy with many physicians, and I have often ordered it myself, though I would not assert that it exerted a special influence upon the blood vessels of the stomach; if followed by good results it may be presumed that they were chiefly due to the ice.

If the patient has safely passed the febrile stage, accompanied by the hyperæmia of the brain, the chief danger during the second stage, especially if the delirium was severe, lies in the great depression of the nervous system, being mostly felt by the heart, but also by other organs, as the liver and kidneys. The depression of the heart's action, however, may be increased by the degeneration of a part of its muscular elements, occurring in severe cases, and which may lead to a paresis or even paralysis of this organ. For this reason, as soon as the febrile storm has passed, the action of the heart should be closely watched, and if found too weak for the performance of its function, stimulants should at once be administered. While some physicians make use of digitalis, carbonate of ammonia, etc., which may well answer the purpose, others, perhaps the greater number, prefer the alcoholic stimulants; for my own part, I have always used the latter, as they are generally ready at hand and answer the purpose equally as well. They must, however, be administered with great caution and discrimination, as by an excessive use they may do as much harm as good, by overstimulation being followed by a worse depression, or by irritating the stomach leading to black vomit. Unfortunately, they are but too frequently misapplied to the disadvantage of the patient; from all I know, brandy and whisky flow too freely during an epidemic of yellow fever, so much so, that the people have become accustomed to regard these liquids as the chief remedy for the disease. I have learned of cases in which they have actually been given during the febrile stage of the disease, when they obviously can only increase the already existing excitement and augment the disturbance of the functions of the organs. On the other hand, however, I have met with cases, in which a tablespoonful of pure whisky, slightly diluted with water, and administered at the proper time, has evidently saved the patient's life by arousing the very much depressed action of the heart. As regards the selection of the stimulants, it may be said that while the ordinary wines, besides containing too little alcohol, are unsuitable on account of their excessive acidity and impurity, the finer sorts, like genuine old Sherry and Madeira, are too expensive and, also, difficult to be obtained. Pure brandy or whisky, therefore, will be the most preferable stimulants.

If during the course of the disease the urinary discharges are interrupted, the catheter, of course, should be used, in order to ascertain whether there is any urine in the bladder, or whether the non-appearance of this fluid is really due to a deficiency of secretion, depending upon the degeneration of the epithelium of the uriniferous tubules or the obstructions caused by the various infarctions in the latter. In those cases in which a suppression of the urinary secretion really occurs, it appears to me that nothing direct or reliable could be done to induce the kidneys to resume their functions, as the interruption depends upon the organic changes in these organs; though, if depending merely upon the infarctions of the tubules, especially the straight, these obstructions may be overcome, in some cases, and cleared by the pressure of the urine from behind them; the urine, then, will re-appear. On the whole, the stimulation of the nervous system appears to me here the proper course to be pursued; though, in such cases, the condition of the organs in general is already so low as to leave but very small chances for the recovery of the patient.

As regards the diet in yellow fever it may be said that during the febrile stage of the disease it is of little importance, for the reason that the patient generally refuses anything in the shape of food offered to him. Nevertheless, it appears to me that the stomach should not be left entirely empty during the stage, and some light nourishment in liquid form should be given. A thin soup of barley, or any other farinaceous liquid answers perhaps the purpose best; and, if given cold, may at the same time serve to allay the thirst. In the second stage, small doses of the essence of beef—always freshly prepared—or milk will answer the purpose. It is sufficiently known that some caution should be observed during the convalescence in not over-feeding the patient, an error which may be followed by very serious consequences. The diet, therefore, should be chiefly albuminous, very digestible, and given in small doses at first, until the congestion of the stomach may have entirely disappeared. But, it is not only the stomach where the danger of over-feeding lies; for, though the food may be properly digested and the nutritive matters absorbed into the blood, the degenerated and weakened organs and tissues may not be able to assimilate them, and a new disturbance in their nutrition is apt

to arise. Alcoholic stimulants also should be given in convalescence with considerable moderation; in most cases they are not needed at all, the proper nourishing food alone will be sufficient to restore the strength of the patient.

The above remarks may be regarded as mere outlines of a rational treatment of yellow fever, to be filled with the details by the good judgment of the practicing physician. A number of special medicines have been, besides, used in this disease by many physicians; but as they have not only failed to exert any influence upon the neutralization or elimination of the infectious poison, but perhaps rather done harm, I forbear to mention and discuss them. Nevertheless, I would by no means discourage the trial of certain remedies in this disease—empirical as the experiment may be—if administered upon some rational principle. For, if a specific remedy neutralizing the poison should ever be discovered, it will probably be by empirical experiment. Such experiments can only be advantageously made in a hospital, and by experienced physicians, accustomed to systematic scientific investigations; therefore, the general practitioner will do better by following the simple rules of treatment given above until some special and better method has been ascertained.

REMARKS ON THE PREVENTION OF YELLOW FEVER.

Although the subject of the prevention of yellow fever has always received the attention of the medical profession, it has never agitated the public mind to such an extent as since the occurrence of the epidemic of 1878. Aside from the numerous articles which have been written on this subject, so much has been said in speeches and lectures delivered, that I cannot properly conclude this treatise without likewise offering some brief remarks on the prevention of this disease.

Though, from all that of late has been said and written on this subject, it might be presumed that the prevention of a contagious disease was a most difficult and complicated task, it will appear more simple when examined closer, and in a systematic manner and form. Neither is there any novelty in the attempt made for

the purpose of preventing disease, for this subject has been studied for many years by the scientific men of all civilized nations, most particularly during the last fifteen years, since the occurrence of the cholera epidemic in Europe; and the treatises and articles containing the results of the experiments and investigations relating to it are quite numerous, forming a considerable part of the medical literature of these years. Besides, many of these experiments have been made in so thorough a manner, that, without addition, they may equally serve as a safe basis in devising means for the prevention of yellow fever.

As a contagious disease can only be prevented by the destruction of its specific cause, it is obvious that the *true nature* of the latter must *first be ascertained*, before any reliable means could be devised to arrest its activity. Without this knowledge the means employed will be *empirical* in their application, and in most instances, *as experience has sufficiently shown*, be attended with *a failure* of the object in view. Thus, if the disease, as some suppose, is generated by the gases arising from decomposing animal and vegetable matter, the destructive agent, or so-called "disinfectant," should possess the property of neutralizing these gases; or, if, according to another theory, it is produced by the presence of minute organisms contained in the air we breathe, the disinfectant should be destructive to the lives of these beings, and, accordingly, be brought into close contact with them; or, again, if depending merely upon certain climatic or meteorological conditions, as some people suppose, there can be no hope for relief, unless the climate could be changed; and, lastly, if propagated by morbid secretions derived from the diseased organism itself, the disinfectant should be capable of decomposing the poison.

Supposing the theory which teaches the origin of yellow fever from gases arising from decomposing animal and vegetable matter in the streets and houses of a city to be true, then the means of prevention would be quite simple, consisting in keeping the streets and the interior of houses clean from this matter, with fair prospects of being delivered from the yellow pestilence. But though clean streets and houses are very recommendable, and indicate a certain degree of civilization, this theory, as far as it

concerns yellow fever, rests, for the reasons already given, upon a very weak foundation.

Closely allied to this theory is the "bilge-water" theory, according to which the cause of the disease is to be sought either in the gases arising from this liquid, or in the minute organisms which it contains. If this theory was as true as it is false, there would be no difficulty of keeping yellow fever from our shores, as there is no want of agents which would neutralize the gases, or kill the organism, in a circumscribed space like the hold of a ship, though the proposed freezing process, having no rational foundation, would, like other empirical experiments, prove a decided failure.

Greater difficulties, however, would be encountered in the prevention of yellow fever, if the disease depended upon the presence of minute organisms contained in the air and breathed by the people, as here, the only effectual mode of destroying the cause would consist in bringing the organisms into actual contact with some disinfectant agent, as, for instance, carbolic acid *in solution*. Accordingly, every little corner of the streets and houses, as well as the furniture, bedding and clothes of the people should be wetted with this solution, a task impossible to be accomplished. To use the disinfectant in a gaseous form would be equally as impracticable, for the reason that, in order to destroy the organisms, it would be necessary to use the gas in such a concentrated form as to cause the death of the surrounding people, before it would in the least affect the organisms. For ten successive years the streets of New Orleans have been sprinkled over with carbolic acid solution, without ever having made the slightest impression upon the cause of yellow fever. It must, therefore, have now become obvious that unless these or similar measures are carried out in a most thorough manner, it is useless to resort to them at all.

If yellow fever were really caused by noxious gases arising from animal and vegetable decomposition in the streets and houses, or by the bilge-water in the ships, or by bacteria or other minute organisms, the prospects of mitigating or preventing the disease would not be very encouraging, as dirt and filth will occur in any large city, and in defiance of the best regulated and executed sanitary laws. But, fortunately, this is not the case, as it is

more probable that its true cause is a specific animal poison, similar in nature to that of small-pox, scarlet fever, or other contagious diseases, or to other animal and vegetable poisons,—substances, the noxious influence of which may, with the proper caution and attention, be counteracted, or, at least, to a certain degree limited.

In the preceding pages I have already sufficiently demonstrated the nature of the poison, and the manner in which it is propagated and carried from place to place, but have omitted to offer any remarks on the proper mode of prevention. In entering upon this subject it becomes necessary, first, to inquire in what manner the poison is probably introduced, or called into activity in a community. Thus, if yellow fever should appear at New Orleans, or any other seaport, *after having been entirely absent for several years*, it is very probable, or *almost certain*, that its poison has been imported anew, and most likely by ships hailing from infected ports. But, if the disease should re-appear in a place one or two years, or even longer, after having prevailed there, the probability arises that the poison is derived from the previous cases, having remained in the interval of time in a dormant (condensed) state, *i. e.*, for the want of the conditions necessary to its re-assuming the vaporous or gaseous form, as already explained. This probability, however, does not preclude a simultaneous fresh importation. While thus the poison may, on the one hand, be newly imported by ships, it may also lurk about from year to year in the same place, as is the case with small-pox, scarlet fever, measles, etc., the communicability of which nobody doubts. The extent to which the disease may spread, after having originated in this manner, cannot be determined, as it depends on various circumstances or so-called "chances." It is more than probable that those sporadic cases, occurring almost every year, and whose origin cannot be traced, arise from these sources; and it is certain that the yellow fever epidemic of 1879, in Memphis, originated from the poison which, by adhering to the old clothes, had over-wintered in the shoemaker's box. It will be remembered that in this epidemic the first cases occurred in one and the same neighborhood, and were confined to certain houses or families.

From the numerous experiments made relating to the nature of animal poisons or contagia and their disinfectants, almost every investigator has drawn the conclusion that the contagion will lose its noxious properties by a free exposure to the atmosphere, and that for this reason the latter, promoting the process of oxydation, is the best disinfectant; while, on the other hand, the poison will retain its properties when kept in a place from which the atmosphere and light are excluded. Now, it is well known that after an epidemic of yellow fever, the majority of people in whose houses cases and deaths have occurred, *do not destroy or even properly disinfect* the bedding or other articles to which the poison emanating from the patients has adhered; but that, on the contrary, especially among the lower walks of life, these articles are left as they were, and, in many instances, kept in dark and badly ventilated places, where there is no opportunity for the destruction of the poison by oxydation. As soon as the heat of the summer returns, and is accompanied by a certain degree of moisture, that portion of the poison, as yet not destroyed by oxydation or dry heat, will commence to be vaporized, and, if breathed by any individual susceptible to the disease, will manifest its activity in the production of the phenomena characterizing yellow fever. The first case thus produced may recover without its true nature ever being suspected, while the disease may nevertheless be communicated to other persons, and thus have existed for some time until a severe case, characterized by unmistakable and prominent symptoms, such as black vomit, occur. Under such circumstances the tracing back of the disease to the first case generally proves a failure.

These facts will show that in the prevention of yellow fever our attention must be directed toward two chief objects, viz., the prevention of its fresh importation, and of its spreading after once having made its appearance, and, furthermore, the sure destruction of the poison generated by the cases arising.

The first object, of course, can only be attained by a properly arranged and conscientiously executed *quarantine*. So much has been said and written of late, both officially and publicly, about this subject—especially by those who claim its study as a specialty—as to require no additional remarks. Nevertheless, it may

be said that the subject of quarantine has been presented as being much more complicated than it really is. Quarantine is quite an old institution, and has been practiced by many nations for many years. And it is more than certain that properly regulated and executed systems of quarantine do exist to-day, and, from all I have learned, even in our own country, which, moreover, might well serve as pattern for those stations along the coast of the Mexican Gulf, established for the purpose of preventing the importation of yellow fever. But though the administrative part of a quarantine may be quite simple, *as long as performed by intelligent and faithful officers*, the selection and application of a suitable disinfecting agent is more difficult; for, if this fails to destroy the yellow fever poison, when really present, the whole system of quarantine must appear a needless farce. The experiments made for the purpose of ascertaining the efficiency of a proper disinfectant must be made on matter, similar in nature to that representing the poison of contagious disease, and, as I have once hinted before in a short paper "On the Pathology of Yellow Fever"—published in the *New York Medical Journal*, Febr., 1879,—the fresh or dried lymph of the cow-pock-vesicle seems to be the most suitable for this investigation. A number of experiments of this kind have already been made by *Dougall*, *Baxter*, *Braidwood* and *Vacher*, all accompanied by nearly the same results. The summary of the results which Baxter obtained,—who extended his experiments even to the virus of infectious inflammation of guinea-pigs, and to glanders— is stated in his report as follows: *

1. "Evidence has been adduced to show that carbolic acid, sulphur dioxide, potassic permanganate, and chlorine, are all of them endowed with true disinfecting properties, though in very various degrees."

2. "It is essential to bear in mind that antiseptic is not synonymous with disinfective power, though, as regards the four agents enumerated above, the one is, in a certain limited sense, commensurate with the other."

3. "The effectual disinfectant operation of chlorine and potassic permanganate appears to depend far more on the nature of the medium through which the particles of infective matter are

*Reports of the *Medical Officer of the Privy Council and Local Government Board*.—London, 1875.

distributed, than on the specific character of the particles themselves."

4. "When either of these agents is used to disinfect a virulent liquid containing much organic matter, or any compounds capable of uniting with chlorine, or of decomposing the permanganate, there is no security for the effectual fulfilment of disinfection short of the presence of free chlorine or undecomposed permanganate in the liquid after all chemical action has had time to subside."

5. "A virulent liquid cannot be regarded as certainly and completely disinfected by sulphur dioxide unless it has been rendered permanently and strongly acid. The greater solubility of this agent renders it preferable, *cæteris paribus*, to chlorine and carbolic acid, for the disinfection of liquid media."

6. "No virulent liquid can be considered disinfected by carbolic acid unless it contain at least two per cent. by weight of the pure acid."

7. "When disinfectants are mixed with a liquid, it is important to be sure that they are thoroughly incorporated with it; that no solid matters capable of shielding contagium from immediate contact with its destroyer be overlooked."

8. "Aërial disinfection, as commonly practiced in the sick-room, is either useless or positively objectionable, owing to the false sense of security it is calculated to produce. To make the air of a room smell strongly of carbolic acid by scattering carbolic powder about the floor, or of chlorine, by placing a tray of chloride of lime in a corner, is, so far as the destruction of specific contagia is concerned, an utterly futile proceeding."

9. "When aërial disinfection is resorted to, the probability that the virulent particles are shielded by an envelope of dried albuminous matter, should always be held before the mind. Chlorine and sulphur dioxide are, both of them, suitable agents for the purpose; the latter seems decidedly to be the more effectual of the two. The use of carbolic vapor should be abandoned, owing to the relative feebleness and uncertainty of its action. Whether chlorine or sulphur dioxide be chosen, it is desirable that the space to be disinfected should be kept saturated with the gas for a certain time, not less than an hour; and this in the absence

of such gaseous compounds as might combine with or decompose the disinfectant, and so far impair its energy."

10. "When the thorough disinfection of a mass of solid or liquid matter, through which a contagium is disseminated, is impracticable, we should guard against giving a false security by the inadequate employment of artificial means. It is probable that all contagia disappear sooner or later under the influence of air and moisture, and that the absence of these influences may act as a preservative. When, therefore, we cannot advantageously or effectually supersede the natural process of decay, we must be sure that we do not hamper it by the injudicious use of antiseptics."

11. "Dry heat, when it can be applied, is probably the most efficient of all disinfectants. But, in the first place, we must be sure that the desired temperature is actually reached by every particle of matter included in the heated space; secondly, length of exposure and degree of heat should be regarded as mutually compensatory factors, within certain limits."

The above rules, laid down by Baxter for liquid or aërial disinfection, are very simple and will suffice for all purposes. In applying them, however, to the disinfection of ships, it will be found that a perfect disinfection of the whole cargo of a ship is almost impossible as long as the latter remains undisturbed, for the reason that the gaseous disinfectant cannot penetrate to its depth, or into the interior of the bales of merchandise, unless the ballast is broken. In order to thoroughly disinfect the latter, therefore, it must be broken, by unloading the ship and exposing it to the free atmosphere. Now, whether such a proceeding would be practicable, I am unable to decide, not being sufficiently acquainted with the commercial details and difficulties attending such an undertaking, I can only point to the fact, that unless every part of the cargo is exposed to the influence of the disinfectant or the atmosphere, any other mode of disinfection will be useless.

But, even, if the breaking of the ballast were practicable, a proper inquiry should first be made whether such a complicated labor is really necessary, that is, whether the noxious poison of yellow fever were, indeed, adhering to the merchandise of the cargo. Although I would not venture to deny the possibility of the poison being carried by the cargo of a ship hailing from the

sea-ports of the West Indian Islands, or of the coast of South America, and consisting, as far as I know, generally of coffee, sugar, tobacco, etc.—articles which are generally kept in large warehouses—I cannot but think that such an occurrence must be very rare, unless these warehouses are situated in a densely populated locality where the yellow fever is raging, and the goods are handled by persons who have come into direct contact with yellow fever patients. And even, if this were the case, it appears that during or before the act of loading, the goods, generally lying along the wharves of the port, become sufficiently exposed to the atmosphere to render the vaporization and ultimate diffusion of the poison into the latter possible. It is, therefore, more probable that the poison is generally carried to a ship by the clothes of the sailors and passengers, as well as by the effects locked up in their trunks; and it is from these that the poison is communicated to the usually badly ventilated and confined spaces and cabins of the ship during the voyage. This supposition will appear more reasonable in considering the nature of those places and localities in a sea-port, generally visited by the sailors when on land.

If the view I have taken is correct, a thorough disinfection of the clothes and effects of the sailors and passengers, together with the cabins and general hold of the ship, would be all that is needed.

The disinfection of the ship may be effected in accordance with the general rules laid down by Baxter, together with the washing of the deck and other wood work. But as regards the clothes and effects of the passengers, the application of dry heat is preferable, as it is more reliable in its effects. This method of disinfection has been practiced for a number of years in European hospitals, both in England and Germany, and different apparatuses have been constructed for the purpose, the description of which may be found in the medical records. With the construction of the proper buildings and accommodations of a quarantine station, arrangements could be made that, while the clothes and other effects of the passengers are exposed to the dry heat of the disinfecting apparatus, they, themselves, might enjoy a good bath, for soap and water will prove, after all, the best disinfectant.

The degree of heat which woolen or other goods are able to bear without damage in the heated chamber during the process

of disinfection has been determined by *Vallin*.* He found that white blankets, if exposed to a temperature of 110° C. for two hours, slightly change in color, such as if they had been washed with hot water; if exposed to 115-120° for two hours, a slight yellowish coloration was noticed. Linen or cotton goods bear 115° very well, their color suffering only when exposed to 125° for two hours. The integrity of the goods becomes affected with a much higher (150°) temperature. Change in color occurs sooner with dry heat then when the heated air contains a large quantity of moisture. As regards the degree of heat required to destroy infectious matter, it appears that most germs of disease become innoxious with a temperature of 100° C., the septic matters, however, retain their power of infection even at this temperature.

The prevention of the yellow fever, after having been once introduced, or newly arisen—*events, possible in the face of the best sanitary regulations*,—appears to me no less important, and much more difficult, than to guard against its importation. Though it may be nearly impossible to extinguish the disease abruptly after it has once arisen, much can be done to prevent its spreading to a much greater extent, or from finally assuming the form of an epidemic. The only way by which this can be acccomplished is to prevent, or, at least, restrain the intercourse between the healthy and the sick. I have already pointed to the most pernicious custom of the female neighbors entering indiscriminately the house in which a patient lies sick of yellow fever, either to inquire after his welfare, or for idle curiosity. Now, though the first of these objects is very laudable, it must be dispensed with, when associated with the danger of carrying the poison to other houses and families, from which it may eventually spread over the same or other districts. Any one, who will reflect upon the complexity of the daily intercourse between the inhabitants of a large city, will become convinced of this fact. The first step, necessary to the prevention of the spreading of the disease, must therefore consist *in informing the people of the contagious nature of the disease, and showing them the danger of entering a house infected with the disease. There remains no doubt but that extensive epidemics have chiefly been due to the idea of the non-conta-*

* *Virchow u. Hirsh*, Jahresbericht f. d. Jahr 1877. vol. I. p. 507.

giousness of yellow fever, prevailing among the people. In advocating the strictest observance of non-intercourse with cases of yellow fever, I, of course, exclude those persons necessary to attend to the comfort and nursing of the patient. It is not my part to point out in this place the details of the manner in which this proposition may be carried out without too much inconvenience to the friends of the patient, but I am confident that with the proper system and precaution it can be done, and the disease be arrested, or kept in safe check until the colder weather sets in, when the fall of the temperature of the air will prevent the evaporation and diffusion of the poison.

Equally as important as the isolation of the cases is the complete disinfection or destruction of all objects to which the exhalations of the patient may have adhered during the course of the disease. Those articles with which the patient has come in immediate contact, such as bedding, shirts and other garments, should absolutely be burned, as soon as the patient is in convalescence, even if it should be done at the cost of the community, for it would be the cheapest mode of proceeding in the end. Such articles as will stand boiling and washing with soap should undergo the process, for, it may safely be guaranteed that the noxious poison, arriving in the gutters of the street after this procedure, will be surely deprived of its noxious properties; woolen articles may be disinfected by heat. As the poison adhering to the floors, doors and windows of the house is most effectually removed by plenty of soap and water, nothing would remain but the walls, which, if admissible, might be white-washed, or, if papered, thoroughly disinfected by one of the disinfectants in gaseous form, as recommended by Baxter.

From the above sketch it may be inferred that the prevention, or, at least, the checking of yellow fever, is not as difficult a task as might be supposed, if the proper precaution is observed, and the necessary means are conscientiously and systematically employed. A most important factor in the execution of these measures, however, will ever be the active co-operation of the inhabitants of the city themselves; the submission to some inconvenience by the individual for the welfare of the whole community, even at the sacrifice of a few individual rights.

Society Reports.

ARTICLE IX.

AMERICAN DERMATOLOGICAL ASSOCIATION: FIFTH ANNUAL MEETING. Held at Newport, R. I., August 30 and 31, and Sept. 1, 1881. Official Report of the Proceedings by the Secretary, Dr. Arthur VAN HARLINGEN, of PHILADELPHIA.

FIRST DAY.—MORNING SESSION.

ADDRESS OF THE PRESIDENT, DR. JAMES NEVINS HYDE.

Dermatology and its Relations to Periodical Literature.

GENTLEMEN OF THE ASSOCIATION:

In selecting as a theme for the annual address, one which covers the broad field described in the words, Periodical Dermatological Literature, I feel that at the outset I should recognize and impose upon it a necessary limitation. The two successive addresses of the distinguished gentleman who preceded me in this place, have furnished us with a valuable history of the rise and foundation of American Dermatology, including, under that name, a sketch of the current and completed periodicals published in this country in the interest of this department of medical science. Of those two addresses it may be said, that each is the fitting supplement of the other, and their publication, I might add, has attracted, beyond the borders of membership in this association, an interest which cannot fail to have an important bearing upon future contributions to the same general field.

It is my purpose, at this time, to briefly inquire, what have we a right to expect of Periodical Dermatological Literature in its attempts to supply the needs of the profession at large, with respect to a diffusion of knowledge as to the methods of establishing an accurate diagnosis in cutaneous diseases and as to the

means of their successful treatment. It is true that these questions are those whose answers must be familiar to all of you, and with respect to which I could not claim to be able to speak with any greater authority than yourselves. Still, it is on occasions like these when he who speaks in your name speaks with an added emphasis and a weightier than his own authority, that our utterances are received with the greater attention by the general profession of which we are all members.

Periodical Dermatological Literature exists in two tolerably distinct classes of publications. On the one hand, we find a list of special journals devoted chiefly to the consideration of diseases of the skin and kindred topics; and, on the other, the great body of current medical issues, conducted with a view to the advancement of general medicine or to its special departments distinct from that in which we find a special interest. The list of the former is limited and relatively small, not more than five or six of such journals now appearing in all countries, and of these none in Great Britain. The number of regular subscribers to these special publications is also necessarily limited; and it might be safely concluded that their pages are consulted by a still smaller number of general practitioners from the beginning to the end of the year.

When we turn, however, to the vast number of journals of general medicine published here and abroad, we find in them the field from which most medical men derive their knowledge, limited or the reverse, upon dermatological subjects. It is to the value of the articles which appear in their pages that the profession is indebted for its brightest successes in dermatology; it is to the deficient and erroneous teachings of the same sheets that we have to look for much of the ignorance and many of the vicious practices with which the consultant has reason to become familiar. I desire to ask your attention to this state of affairs for a few moments. And let me premise what I have to say with the remark, that large as has been the value of the contributions made by the members of this association since the day of its organization to special journals of dermatology, it may well be concluded that the work the same gentlemen have accomplished, in extending a knowledge of diseases of the skin by their communications to general medical literature, has been of equal value to the profession at large. I do not, however,

fail to appreciate the fact, that the general diffusion of knowledge regarding any special department of science is apt to be proportioned to the fruits of the labor expended in its particular channels of research.

Contributions of the class we have now in view, those, namely, which from their wider circulation secure a more extensive reading, may properly be assigned to four categories. There are, first, the solid and praiseworthy observations of fact, or deductions of a trustworthy character from the observations of others, respecting the etiology, diagnosis, pathology and treatment of diseases of the skin. There are, second, reports of improperly, because imperfectly, observed facts and crude opinions derived from these imperfect observations. One reads these with a feeling of regret that the author had not brought to bear upon his theme a riper experience or a more extended collaboration of the results of investigation made by others. Next, we have the worthless papers of men totally ignorant of the meaning of the terms and facts which they have attempted to employ, and of the significance of the relation of these to each other, or to others beyond the scope of their recognition. Unfortunately, the syntax and logic of these three varieties of literature are not always proportioned to their intrinsic value. If they were, the educated man might, from his general knowledge alone, be able to distinguish between the wheat and the chaff. Sometimes such proportion does exists, often it does not ; and a certain degree of education in dermatology is thus needed in order to detect the counterfeit of the truth, when the latter is presented in an attractive form and under the cover of a name of authority.

A fourth class of papers is negatively a source of mischief, worked, however, chiefly to the authors themselves. These are written by men who should know well the subjects which they attempt to discuss, if we judge them from the standpoint of position and experience ; but either from an undue haste, originating in the pressure of many duties, or from a foolish desire to identify themselves speedily with the subject upon which they write, or even from other motives not of the highest character, they deluge the medical press with voluminous papers filled with verbose iterations of ideas made public before their day, often by others in much better form, which serve to encumber the world with a little more of the rubbish swept annually by a pitiless indifference into the limbo of the forgotten.

Very much, however, has been accomplished in educating the mass of professional men in America with respect to the interesting and fruitful topic which we are now considering. An examination of the medical periodicals published in this country during the last five years, and a comparison of these with those of an earlier date, will bear evidence to the fact that in their appreciation of the importance of cutaneous medicine, in the accuracy of diagnosis and in the discussion of questions connected with obscure cases, there has been an improvement which has been as creditable for the past as it is promising for the future.

Permit me, however, to suggest very briefly some of the particular topics upon which there is room for a more extended knowledge among the mass of the profession, and where such information will make the immense difference between the brilliant success or the dismal failure of the average practitioner of medicine.

Surely it rests upon us to do our part in excluding from the discussion of the important questions presented to the minds of our generation, the ghosts and spectres of those which have preceded, and which have scared so many of our kin into the devious thickets on either side of the path of safety.

In the matter of diagnosis, for example, how common it is to find the forms of papular eczema mistaken for prurigo, merely because there was not the discovery of a vesicle, that ancient *sine quâ non* of an eczematous disorder. Here, again, is a supposititious eczema, long and vainly treated because of the failure of the practitioner to distinguish the lesions of pediculi inhabiting the clothing of the patient. I was lately summoned by one of the shrewdest physicians of my acquaintance for consultation in a case supposed to be one of obstinate eczema of the forehead. doubtless so designated by my friend in consequence of the vesicular character of the disease, which proved to be an exceedingly severe form of zoster ophthalmicus, the scars of which the unfortunate patient will carry to his grave. Erythematous eczema of the face as it occurs in middle-aged adults is another variety of the same disease whose recognition becomes too often a stumbling-block to the medical man clever enough to discover and relieve every species of laceration of the cervix uteri. Patients thus affected frequently drift about among physicians, now treated for "erysipelas," and now for some

"humor of the blood," often attributing their malady to the most remote and impossible of causes. The case of an intelligent lady occurs to me in this connection, who, when consulting me for an affection of this character, referred all her troubles to the incursion of an insect several years before into the respiratory passages, and who would consent to no remedial measures which did not contemplate the removal of the unwelcome and now venerable visitor.

Turning to another of the common diseases of the skin, acne, one would be disposed to conclude, that the ease with which it can be usually recognized, its frequent exposure in public to the eye of the uneducated man, would serve as a basis for a very wide-spread familiarity with its symptoms and character. Such, however, is, as you all too well know, far from the case. Truly, if we were less ignorant of things spread daily before our eyes, we should have less difficulty in apprehending the hidden and abstruse. Possibly, it is exactly because acne occurs so frequently upon the face, that so many odd errors are committed against its personality. Thus we find a patient who has at one time been infected with lues, and who has perhaps exhibited a series of syphilodermata, with a few tertiary lesions of periosteum or bone, leading a life of dissolute habits for eight or ten years thereafter, and subsequently developing one of the forms of rosacea about the nose, forehead or cheeks. The arguments necessary to convince the average medical man, that this is not a symptom of syphilis and is absolutely unconnected with the infective process, are sometimes scarcely within our reach. Fact and reason are often equally powerless to dissuade these individuals from pursuing for years a specific treatment, which is as often disastrous to the personal appearance of the patient as to the reputation of the practitioner.

Then, again, there is the case of the man who has been exposed to venereal disease in his youth, without having been really infected, the acne of whose maturer years is persistently regarded by himself as the pitiless revenge which time inflicts for his vicious employment of it in the past. A striking example of this class of cases once came under my observation. A respectably appearing gentleman, fifty-five years of age, and affected with severe acne vulgaris lasting for fifteen years, came to the consultation accompanied by his wife, to whom he had

been married for a quarter of a century. Just before the appearance of the rebellious acne, she had discovered her husband in improper relations with a woman of questionable character, and for fifteen long years the wife had reproached the husband for a disease which she supposed had been communicated to him, and the evidences of which she thought she saw in his face. The proof of these assertions upon her lips, corroborated as they were by many physicians, he had never questioned. A most careful examination revealed the true state of affairs, and it occurred to me, that the triumph of the husband as he found the stigma of his disease removed, seemed even less than the disappointment of the wife at finding herself deprived of her accustomed weapon of attack. Lastly, there is the man or woman, who is sexually an hypochondriac, and to whom the existence of a facial acne is a source of terror, as significant in his or her eyes, and in eyes, too, that should be better instructed, of poisonous or vicious matter in the blood, produced by disease of the generative organs. In the futile effort to dissipate or antagonize these "impurities," medicaments are swallowed for months at a time, with results which are often such as to transform pustules into large abscesses of the sebaceous follicles, and to produce a consequent facial deformity, which, if we followed the fashion of our ancestors in giving long names to symptoms, we should denominate the "facies sexualis medicamentosa."

How singularly the popular belief as to the generation of poisons in the blood, accords with the creeds of mediæval theology respecting the vileness of man! In the purview of the latter, the living body was a corrupt and evil thing; self-neglect, a duty; self-mutilation, a virtue; and self-immolation in desert or cell, the crowning glory of a perfect life. If it be charged that this is the age of the deification of matter, we may well retort that that was the day of the apotheosis of dirt! To it, I believe, may be traced the prevalent doctrine of blood impurities, as the voudooism of the American black is found to have its source among the traditions of the negroes in the heart of Africa. What more pitiful than to listen to a healthy man, the father perhaps of a healthy child, his face flushed with the ruddy hue of the current that sustains his life, able to digest roast beef and to enjoy sunshine, showing merely a few pimples upon his face, and describing his body in terms that would be

appropriate in characterizing a pile of ordure! In cutaneous medicine, it may not be true that, as Huxley said, "the people perish for want of knowledge," but it is certain that, for want of it, they endure a great deal of wretchedness and misery.

Turning to the somewhat rarer varieties of skin disease, we find that the common errors committed in their recognition are often as ludicrous as they are mortifying. You doubtless recall the case mentioned by one of our number, at the New York meeting, who had been consulted respecting a supposed case of leprosy, which was in fact one of melanotic sarcoma. The late president of the association recently informed me that his opinion had been asked with reference to a patient who had been assured by his physician that he was the subject of leprosy, and who was found to be suffering merely from an attack of tinea versicolor. It is a common experience in the last-named affection to encounter patients who have been treated for years for the relief of hepatic or other visceral disorder, and yet who are restored to their normal condition in the course of a few days by appropriate treatment as soon as they fall into the hands of a competent physician.

Lupus, again, is a disease of the skin, whose name has been employed to cover a multitude of mistakes. The various forms of carcinoma are so little differentiated, in the understanding of many practitioners, and it may be said also of many surgical authors, not only from each other, but from other lesions of less grave portent, that they are frequently confounded under the designation lupus. The fact that lupus vulgaris is, at its outset, most commonly a disease of early life, is not generally appreciated beyond the dermatological world, and the result is that it has served as a convenient halting-ground for many who are called on to give an opinion respecting suspicious solitary ulcers of advanced years, the real nature of which is not even suspected. Thus we find it used very largely by the men who do not hesitate to align themselves with sectarians in medicine, and whose knowledge of half truths is apt to be proportioned to the minimum of their doses. It is none the less remarkable of lupus erythematosus, that it is not rarely confounded with squamous eczema, and when persistent, combatted by remedies supposed to be efficacious in the so-called diseases of the blood, such as sarsaparilla and stillingia, those innocent weapons of

warfare, which ought one day to be displayed in an international museum of medical antiquities, to be gaped upon, wide-mouthed, by coming generations, as does our own upon the relics in the Tower of London.

I refer him who is interested in errors of etiology to the admirable paper on that subject, written by the first president of this association, and now a part of its record. It should be read by every American student of dermatology. Perhaps it may not be inconsistent with the theme I have chosen, to touch very briefly, at this point, upon the demands, implied or expressed, upon the exponents of cutaneous medicine, with respect to the important relation they sustain to periodical literature.

It is well-nigh impossible to mistake the drift of the wisest popular and professional thought, in its influence upon the practice of our time. I believe that, erroneous as are many of the conclusions in the philosophy of Mr. Herbert Spencer, they have powerfully operated to inspire the modern methods of research with a keener appreciation of the real relations sustained by man to the external universe, and the influence of those relations upon each of his physiological and morbid states. Studied in its proper light, the altruism by which Mr. Spencer would explain man's moral sense, and even his affection for his offspring, becomes the key to many of his diseases and to the most rational methods of their control. Man is thus discovered, with the devils by which he was formerly possessed cast forth, and he stands the innocent or guilty victim of the folly, ignorance or vice of himself or another. His sufferings, no less than his passions and emotions, become links in a long chain of causes and effects. Absolution for his physical sins of omission and commission can not be purchased by swallowing a pill or annointing himself with a salve, as readily as the burdens of his conscience are purged by the pardons of a priest. The attractiveness which the study of hygiene possesses for the modern investigator lies in its revelation of the possibilities of preventive medicine, if you will permit the use of such a misnomer, and I do not know of any field which, in this regard, is so promising as dermatology.

It is beginning to dawn upon the minds of men that it is easier to hurt than to heal; cheaper to foresee than to suffer; wiser to be prevented than to be punished.

We have sadly perverted, in these latter days, the primitive sense of the old Latin word *curare*—to take care of, or to care for ourselves or others. We have made it mean that part which man plays in the healing of the diseases of his fellow-man, a most detestable and wretched rendering of the original, with which the Italians are not chargeable. They still use the word *cura* in the sense of the care or treatment of a malady, while the verb *guarare* is applied to the healing or complete relief which is obtained by the cure. We find the term occasionally creeping into our own tongue with its honest meaning, as in the so-called grape-cure, or grape treatment of one class of maladies, and in like expressions. The true physician is really called on to cure, not only the sick, but also the well; to care for both, in the highest sense of the term. by preventing all their preventable disorders, and, in those which are not preventable, by preventing all preventable complications.

As for our prevalent employment of the word cure, it is safer to look upon it with a pessimistic than an optimistic eye. It is not only certain that in this sense we cure nothing, it is even probable that no inflammatory disorder of severity is ever perfectly "cured," even by the elegant processes of nature. We are dying from the cradle to the grave. These so-called diseases of ours are in reality steps toward the final dissolution, arrested or not, but never retraced. Do you turn to me and say, "This is ground which a dermatologist should, of all men, hesitate to assume?" I answer that what can be shown to be the law in one department of knowledge, will probably fit well into all others. Does a cured pneumonitis leave the affected lung as distensible and pervious as before? How often will a cured pleuritis delicately glue together the apposed membranous surfaces in a union which only the hand of the anatomist will sever? The extremities of a fractured bone are united, it is true, but we can read the story of the accident in the skeleton for generations after. What blennorrhagia leaves the urethra of the male, virgin of all accidents? When we turn to the skin, and discover that the prick of the lancet which penetrates beneath the mucous layer, tearing asunder a few of the epithelia, leaves there the indelible trace of its entrance; when we observe that the most perfect coaptation of the lips of a wound, made by a clean incision of the skin proper, is followed by the

formation of a new growth which no trick of man can remove, save by the substitution of another more cumbrous in its place; and when we reflect that scars, even half a century old, may reopen under the influence of scurvy, we may well ask of the presumptuous physician whether he will undertake to do better than all this?

We may look upon scars as the happiest results of natural effort to relieve a serious disease, and our best is scarcely better than that. What nature accomplishes with grace, delicacy and leisure, we effect brutally, coarsely and with despatch by knife, écraseur, curette or caustic. Let us call it "a cure," if we choose. It is really an arrested necrotic process, and the influences which decide whether that arrest shall be permanent or transitory are practically beyond our control.

This wonderful and complex organism which we call the skin is a living and sentient veil, stretched between the inner man and the outer world, with a series of complex organisms on either hand. However much we may conscientiously differ respecting the relative influence of the one side, or the other, in the production of its diseases, we can not fail to recognize the important fact of its interposition between the two. Even in those disorders which are admitted to be largely of internal origin, we discover that their study can not rest with the recognition of a single etiological factor, but must be pushed further to the investigation of those accidents which operate to give form, outline and position to all significant lesions. Thus, for example, Parrot has recently called attention to the fact that in hereditary syphilis the frequent occurrence of mucous patches about the anus is due to the accumulation over that part, of the fæces on the napkin of the child, and the labial sores of the same little patients are known to originate in the action of the lips on the nipple of mother or nurse. The close observer will be constantly surprising these external influences in their operation upon the living body, in every variety of pathological condition; and it would be as unphilosophical to assign the bedsore of typhoid fever to the emanations from a cess-pool, as to conclude that the patches of tinea versicolor on the chest of the tuberculous patient were the result of a diathesis.

In this fragmentary way, I have merely alluded to a few of the special topics to which this subject naturally directs our

attention. Will you permit me to formulate, with a view to their distinct expression in this place, a few of the conclusions which are thus suggested? Some of the common errors, then, which require refutation, are:

First. That because a disease exists and is visible on the surface on the body, it for that reason alone requires active internal or external treatment. Surely the diseases of the skin share the peculiarities of those of many other organs of the body. Some need no treatment. He is, indeed, well fitted for his responsible position who advises his patient that the disease of the latter disturbs the imagination more than the body; is possessed of no element of danger to himself or another; will, if undisturbed, proceed naturally to its own favorable issue, and call for no intervention on the part of either physician or patient. These cases occur to all of us in our daily experience. I had, lately, the fortune to watch the evolution of forty cases of rötheln, medically untreated in one of the public charities of Chicago. In no one of these was any drug administered, and in none did any accident occur worthy of mention, beyond the usual features of the disease.

Second. That because a disorder of the skin exists, it can be always readily relieved by an expert. There are cutaneous maladies which prove inevitably fatal. There are others of such an inveterate character that the skill of the most practised is inadequate to procure relief. Though not fatal, the latter are none the less persistent and remediless. Is it not curious that there should even be occasion to remind the world that the wisdom and skill of man have not yet reached the acme of success in all those emergencies where a demand is made upon the resources of the healing art? Are there no forms of non-specific catarrh which resist the most conscientious efforts of the physician? Are there yet no deformities which the skill of the orthopædic surgeon fails to remedy? There are thousands of men to-day on the pension rolls of the United States Government for chronic diarrhœa, which has been uncontrolled since its victims first contracted the disease in the swamps of the Southern marshes. It may well be regarded as an unintended compliment to the skill of the dermatologist that he is ever and again consulted for the relief of a cutaneous disorder which has lasted for sixteen or twenty years, and which he is

asked to remedy in the course of as many days. "A chronic disease," said Fournier, "requires a chronic remedy;" but, in the view of the uninformed, this axiom is reversed. There are inveterate diseases of the skin, as of other organs of the body, and, brilliant though be the success with which some of these are managed by the competent man, a variable proportion will bid defiance to the most practised hand, guided by the best trained judgment, till our methods are improved and our resources largely increased.

Third. That after relief is secured by treatment, many diseases of the skin can be so managed that they will not recur. The implied demand is made, it seems to me, upon the dermatologist alone. The patient with a fractured leg does not ask of his surgeon a guarantee that he will not suffer a similar accident, if he again fall beneath the wheels of a rolling car. The convalescent from a follicular enteritis, does not demand a future immunity from errors of diet in an unfavorable season or unpropitious climate. And so the patient, with an intertrigo beneath her pendulous breast, or a dermatitis medicamentosa, should not expect to be protected from the results of either a neglect or an imprudence. Some diseases of the skin recur continually, and will do this for a lifetime. It is true that these recurrences usually result from adverse extrinsic influences, but it is often not in the power of the physician to set these aside. In such cases he discharges his full duty, when he forecasts the future and describes the result of the best treatment under forbidding circumstances.

Fourth. That the expert, upon the examination of but a portion of the affected integument, is competent to pronounce at once upon the character of a disease. It is true that in many cases a large experience enables such a man to recognize at a glance the distinctive features of a malady. In the same way the surgeon can occasionally, and with equal readiness, recognize a case of talipes, and the oculist one of convergent squint. But no opinion is worth the time of the patient or consultant, which is not based upon a most careful, exhaustive and patient investigation, not only of the visible symptoms present to the eye upon the surface, but also of the history of the case and all other pathological facts obtainable. It is, indeed, the skill with which these are discovered and assigned

their proper influence in a decision as to the nature of the complaint, that constitutes the chief difference between him who is, and him who is not, expert in diagnosis. Strange, indeed, that the dermatologist alone should be supposed absolved from this imperative and fruitful labor in the study of his cases, yet such an idea is sufficiently wide-spread, largely among the laity, and to a certain extent among the profession. It is a common experience to be shown a patch of diseased skin or a few distorted hairs, upon which follows the inevitable question, "What do you call this?" I was lately stopped on the street by a physician of large practice and wide reputation, doubtless on the way to the bed-side of his patient, who hurriedly demanded, "Please tell me how to treat eczema!"

Fifth. That a practicing physician need not always make an accurate diagnosis in cutaneous disease, and that a failure on his part to do this, need not be considered as perilous to himself. In a recent inaugural address, delivered before the class of one of the medical colleges in the city of New York, * the speaker remarked, "The physician must never forget that his patient is, from the nature of things, a possible enemy." Well and truly said. The time has nearly passed when our intelligent countrymen, seeking to know the nature of their complaints, can be put off with a long-sounding name and a prescription written in a dead language. For many of them it will no longer suffice to be informed, in the matter of diagnosis, that they are affected with "a disease of the skin." They ask, many of them, to know what form of skin disease is theirs, and, if not satisfactorily answered, it requires but little to effect this transformation of a friend into an enemy. The fact will finally dawn upon them that they have been in charge of one who really could not even name the disease which he had dared to treat. "What," they properly exclaim, "would be thought of a surgeon who would undertake to treat a fracture, not knowing whether it were a dislocation or a rheumatic affection of a joint, and what would be the position of a merchant who, in the commercial world, could not exactly name the amount of his liabilities?" Sooner or later, patients of this class find out for themselves the persons who are competent to describe their condition and to advise them judiciously with

* Inaugural Address. M. Putnam Jacobi, M.D., CHI. MED. JOUR. AND EXAM., June, 1881, p. 561.

respect to its management. We, who often are consulted at this juncture, are sometimes compelled to listen with a feeling of shame for our profession, to indignant reproaches on the lips of those who, but a brief time before, trusted to the honor and relied on the skill of our brothers in medicine. It is none the less pleasant to record the attested fact, that the man who is candid enough to admit that he is in doubt respecting the nature of the disease for which he is consulted, and who summons another, in order to avail himself of a wider experience or a readier skill, rarely fails by such a course to strengthen those bonds of sympathy which should always unite the physician and patient. In the vast majority of these cases, patients return to their physicians with an heightened sense of the trustworthiness of the latter.

Let no man interpret these statements in the light of a plea for a wider range of possibilities for the consultant. The educated gentlemen who have made themselves masters of any special department of science, in this country, certainly have found no lack of appreciation and that reward for skilled labor which all honest work inevitably yields. They surely need to have no plea entered for them. This association has steadily set its face in the direction of the needs of the physician in general practice with respect to a knowledge of cutaneous diseases, and has made a most important and valuable advance in the diffusion of such knowledge in America. If these words of mine can be interpreted as a plea, may they be held as pleading for higher attainments on the part of the general practitioner.

Sixth. That such remedies as mercury, arsenic and the iodide of potassium may be administered in any case where an accurate diagnosis has not been established, and in such cases may be used unadvisedly. Said the physician of a past generation, "When you do not know what else to do, treat for syphilis." It is difficult for me to touch upon this point, without the appearance of exaggeration. Doubtless the experience of many of you does not greatly differ from my own. I am quite prepared to say, that for one patient who is benefitted by the administration of these remedies in the hands of incompetent men, there are ten who are made worse. The vulgar idea that all disorders of the integument are, in some obscure way, to be connected with a syphilitic taint in one generation or another;

the erroneous opinion that syphilis descends through many generations and lurks obscurely in the eczema of the infant, the psoriasis of the adult, the sycosis of the young man, or the acne of the young woman, these are the spectres that scare the foolish, whether they call themselves doctors or laymen, into the rough régime of a crude materia medica. It should be considered a crime to subject a man or a woman to a systematic mercurial course for the relief of an affection supposed to be syphilitic, but in reality not such. The aggravations induced in acute cutaneous exudations by the early and indiscriminate employment of arsenic, need not be described to those who, like yourselves, have the opportunity of observing these conditions. Acne-sprinkled faces, which for months have exhibited almost every one of the various eruptions induced by the ingestion of the iodide of potassium, are the staple of our public clinics and the reproach of our body medical. Who will write, in figures that should astonish the student of medical statistics, the number of all diseases of the skin, readily manageable at their outset, but after long subjection to the so-called "driving-out" process, rendered either inveterate or remediless?

Seventh, and lastly. That the study of diseases of the skin is the pursuit of a narrow specialty, leading to a knowledge of superficial eruptions upon the surface of the body, and to an ignorance of the functions and maladies of important internal organs. The erroneous impression thus suggested has contributed to the too general disregard of cutaneous medicine, not only in the medical colleges and charities of our country, but also, in part as a consequence of this, in the studies of professional men. Yet he who would specially devote himself to the investigation of the disorders of the skin requires, fully as much as his professional associates, the amplest preparation in a finished general medical education and experience; and when at last ready for his work he will discover, if he has not before done so, that he needs to be a physician in the highest sense of the term, and the peer of all his fellows. There is no organ of the body, either in health or disease, which it may not become his duty to explore and investigate, for the skin is only one of the living and potential microcosms which constitute the macrocosm of the human frame. Surely I need not remind any of you, that he can ill afford to neglect the study of diseases of the skin, who

devotes himself especially to the maladies of the eye, of the ear, of the generative organs of either sex, of the nervous or other system of the living body. The same is true of the surgeon, the accoucheur, and of the professional man who is called to treat the disorders of infancy and childhood.

The added power and skill of him who acquires the knowledge of which I speak is something which its possessor alone can fully appreciate, and of him who has it not, I think you will agree with me in saying, that as a diagnostician he is fatally deficient. Who can describe to one that knows nothing of it, the sense of gratification afforded by the ability to read at will the page presented on the surface of the living body, its secrets utterly sealed to another, who finds these characters meaningless! Who will declare the marvellous manner with which nature rewards such a man for his patient, minute and watchful attempts to translate these characters, giving them a clearer significance and more legible distinctness for every added hour of attention! Who, that has once enjoyed this enlarging reward for his toil, would exchange it for the power to decipher any hieroglyphics that were ever graven by man upon a monolith, or imprinted by his pen upon a palimpsest! His is a truer palmistry than that which seeks only to read the secrets of the inner man; for to him the human hand, since first the pink of its unused palm was laid upon the breast of a mother—and whether it betray the syphilis a decade old, or the manner of toil by which man earns his bread—tells ever a true tale of its acquaintance with that part of the world which it was fashioned to grasp.

In the hope, Gentlemen of the Association, of making this address of some practical value, and also of further justifying its title, I have appended to it a general alphabetical index, by authors and subjects, of all the original communications which have appeared in the pages of our special dermatological journals, including also the papers written by members of the association and published elsewhere. The index, therefore, is made from the following periodicals:—

The *Vierteljahresschrift für Dermatologie und Syphilis*, Wien, 1875 to July, 1881. Current.

The *Archives of Dermatology*, New York, 1874 to July, 1881. Current.

The *Archiv für Dermatologie und Syphilis*, Wien, 1869–1873. Complete.

The *American Journal of Syphilography and Dermatology*, New York, 1870–1874. Complete.

The *Annales des Maladies de la Peau et de la Syphilis*, Paris, 1844–51. Complete.

The *Annales de Dermatologie et de Syphiligraphie*, Paris, 1869 to July, 1881. Current.

The *Archiv für Syphilis und Hautkrankheiten*, Berlin, 1846. Complete.

The *Giornale Italiano Delle Malattie Veneree E Delle Pelle*, from the 11th year to July, 1881 (the first ten volumes being omitted.)

The *Journal of Cutaneous Medicine and Diseases of the Skin*, London, 1868–1871.

The index, thus prepared, is, I am aware, too large to be incorporated with the proceedings of this association. I shall therefore hope at no distant day to place it in the hands of the members of the association in a printed form, without adding to the volume or the expense of our annual transactions.

The President's address having been delivered, DR. CHARLES HEITZMANN, of New York, read a paper entitled

A Contribution to the Minute Anatomy of the Skin,

of which the following is an abstract:

The apparently complicated structure of the skin is easily understood if it is kept in mind that there are but two main tissues entering into the structure, viz., connective tissue and epithelium. The former constitutes the derma, and is arranged below in a coarse felted network and above in fine delicate fibers without distinct arrangement. The superjacent epithelial layer is subdivided into two strata, the lower (rete mucosum) alive and supplied with nerves, the upper (epidermis) of dry, horny epithelia. The connective issue is supplied with blood-vessels and lymphatics, the epithelium lacks such structures.

If, now, considering the formation of the hair, we imagine the connective tissue and epithelium together as a pliable sheet as of chamois, and if in this a depression is produced by pressure with the end of a finger, the result will be a pouch, the innermost layers of which are epithelial, while the outer layer is connective tissue. The epidermis covering the inner surface

of the pouch now bears the name "inner root sheath." Next to this will be a layer formed by the epithelia of the rete mucosum, the "outer root sheath." The outer portion of the pouch composed of connective tissue represents the "follicle." On the bottom of the pouch a protrusion upwards entirely analogous to the papillæ, and formed like those of connective tissue, constitutes the papilla of the hair.

In the formation of the pouch the horny epidermic layer is much thinned in its involution, becoming attenuated in the middle to two rows of cells, thickening again lower down to three or four strata of epithelia, which have lost their horny character and have again become protoplasmic. The rete mucosum enters the pouch in full width, but becomes narrower ; the cells, however, retaining their protoplasmic character, until it is reduced to a single layer and finally disappears.

If we imagine the bottom of the pouch pushed upward, this prolongation, from the structure above described must consist of the inner-root sheath : it represents the hair, which is therefore a solid elongation of the hollow inner-root sheath ; the outer root-sheath has nothing to do with the formation of the hair. At the bottom is the bulb of the hair, composed of living protoplasmic epithelia. Higher up in the hair the epithelium becomes horny again to form the shaft of the hair.

The writer went on to describe the formation of the sebaceous follicle from the outer root-sheath ; the inner root-sheath has nothing to do with this formation. The pouch of the sebaceous gland is under the control of the arrector pili muscle, which assumes the form of a flat fan-like sheet, the broad ends of which terminate in the papillary layer, while the narrow end is inserted into the follicle. No doubt the evacuation of the sebum is effected by the contractions of this muscle, the fatty matter being squeezed into the funnel of the hair pouch and not directly out to the surface excepting in the largest glands.

After giving some further account of the minute structure of the hair and of the process by which it is shed and renewed, the writer went on to describe the formation of the sudoriparous glands. We may simply assume a prolongation of the outer epithelial layers into the deeper portion of the derma. In the epithelial layer of the skin, where the cork-screw-like windings are observed if this is thick, as on the soles, the sweat duct is

lined with flat epithelia. At the point where the duct pierces the rete mucosum, in the valley between two papillæ, it is lined by stratified epithelium. Within the derma, the duct is composed of a single layer of columnar epithelium, obviously a prolongation of the lowest layer of the rete mucosum. The tube, as it begins to coil up, is lined by a single layer of cuboidal or short columnar epithelium. Both the duct and the coil are invested by a somewhat denser connective tissue and supplied with blood vessels. Between the connective tissue and the epithelium there is sometimes a distinct structureless or hyaline layer. Larger coils, especially those of the axilla are supplied with smooth muscles, which are imbedded in the ensheathing connective tissue capsule.

DR. LOUIS A. DUHRING, of Philadelphia, congratulated Dr. Heitzmann on his paper, remarking that the facts there presented would greatly simplify the heretofore complicated views as to the relations of the various structures of the hair and its follicle.

DR. JAMES C. WHITE, of Boston, asked Dr. Heitzmann how it happened that he had never before observed the arrangement of the various layers as described in his paper.

DR. HEITZMANN said that he, like others, had formerly followed the recognized authorities. Recently he had gone to work independently. In answer to a question put by DR. EDWARD WIGGLESWORTH, of Boston, as to the formation of the hair pigment, Dr. Heitzmann further remarked that he had not as yet entered into the study of the subject.

DR. JAMES C. WHITE, of Boston, read a paper on

The Limitations of Internal Therapy in Skin Diseases.

The writer said he would like to approach the consideration of the subject from a purely empirical stand-point, uninfluenced by theories and traditions, and supported only by the results of observations made and recorded in ways recognized as strictly scientific. Cutaneous pathology offers an exceptional field for the study of drugs introduced through the stomach; for, in addition to the ordinary means of judging their effect, the phenomena of tissue-change or modification of function occur directly under the eye. Yet cutaneous internal therapeutics is no more fixed or satisfactory in its results than the therapeutics of general medicine. In spite of great activity and the fact

that novelties even called specifics in skin diseases are scattered all along the history of medicine, only a few agents have attained and preserve a well-established reputation as serviceable in limited fields of usefulness. Dermatologists of repute in different countries still adhere to certain remedies from motives of conservatism or patriotism, while those of other countries cling to their pet drugs and regard foreign treatment as obsolete and erroneous. This unsatisfactory and contradictory condition of affairs must continue until better methods of study are adopted and the faults of individualism eradicated.

It would not be boastful to say that nowhere does there exist a body of dermatologists so broadly cosmopolitan in spirit and training, and representing such varied opportunities of research as are afforded by wide differences in climate and race, or one more competent for such work, than the gentlemen who compose the American Dermatological Association.

The writer went on to sketch an imaginary committee who should conduct a systematic investigation of new drugs. When a member of the association should present a paper on the specific effect of some drug in this or that affection, this would be submitted to the committee, who should follow some well-established procedure in testing its merits. In this way the association would do much to discourage the loose writing and the claims based on insufficient observation which generally herald the introduction of each new remedy. To such a committee might be referred not only all appropriate communications presented to the association, but all doubtful questions of importance in therapeutics, which now vex us so frequently, of old or new origin.

The following subjects of investigation might be cited by way of illustration:

1. The action, beneficial or injurious, of our most celebrated springs in affections of the skin. A report on this subject would do much to clear away the atmosphere of charlatanism which has hitherto obscured it, and develop some knowledge of certain characters regarding it, which the profession of this country has so long needed.

2. The power of electricity over the so-called neuroses of the skin (including zoster).

3. To what extent may certain substances in common use

be applied to the skin without danger, viz., compounds of zinc, lead, mercury, carbolic acid, etc.?

It is unfortunate that so few beds in hospitals are under our control, and that we must rely upon the voluntary visits of out-patients. But, even with such opportunities only at our command, much may be done.

The speaker then went on to speak of the vague and meagre knowledge possessed regarding the action of drugs on diseases of the skin, as illustrated in systematic treatises, going over each class of diseases *seriatim*, and stating the amount of exact knowledge possessed as to the influence of drugs internally administered on each. The number of individual affections of the skin recognized by us approaches closely one hundred. How many of these are under the direct control of internal medication in any marked degree? The speaker wished he might claim such power over ten of them—such power as arsenic may exhibit in in psoriasis, as mercury almost always does in syphilis, and which makes external treatment unnecessary.

The writer did not mean to deny that much may often be done to hasten their good work by the simultaneous use of remedies which elevate the general tone of the patient's functions and tissues, when needed, together with local treatment. The whole patient must always be considered. Moreover, the writer did not believe that the narrow limit of our exact knowledge on this subject could not be enlarged. He would encourage any experimental studies, empirical or philosophical, in this direction. It is the manner in which this important subject has been hitherto so generally treated, so detrimental to scientific progress, which he deprecated. But a frank confession of our present inabilities is an essential step in any real advance.

DR. HEITZMANN, of New York, expressed his pleasure at hearing such views expressed. Men like Erasmus Wilson had done serious injury to dermatology by hastily asserting the influence of internal medication in diseases of a purely local character and indiscriminately.

FIRST DAY.—EVENING SESSION.

DR. ARTHUR VAN HARLINGEN, of Philadelphia, read a paper on

A Case of Lymphangioma Tuberosum Cutis Multiplex,

giving an account of a woman, 30 years of age, who displayed a large number of tumors of various sizes and shapes distributed here and there over the whole body, together with numerous teleangiectases and irregular brownish patches of pigmented skin. The tumors in some cases resembled flabby molluscum fibrosum growths, while in other cases they were smooth lilac or bluish elevations from pin-head to hazel-nut size, and so compressible under the finger as to feel like bladders filled with air and to give the sensation of an umbilical hernia in a child. On excision they were found to consist of a pearly gelatin-like semi-transparent mass, with a smooth, bulging surface and without fluid contents. Microscopic examination showed the structure to be composed of fibrous and granulation-cell tissue, with numerous irregular spaces,—sections of dilated lymphatic vessels. But two other cases are on record, one described by Kaposi in Hebra's work on Skin Diseases, the other reported by Pospelow in the *Vierteljahresschrift für Dermatologie und Syphilis.*

DR. HEITZMANN, of New York, said that the writer was mistaken in thinking that only two cases had been reported. Billroth had reported a case of large lymphangioma, and a student of his had collected and published a number of similar cases.

DR. VAN HARLINGEN replied that he had examined the article alluded to and considered the cases of a different character from that he had just described.

THE PRESIDENT, DR. HYDE, of Chicago, alluded to Dr. Busey's work on the subject of disorders of the lymphatics, remarking that in the cases there reported, an escape of lymph, sometimes to a debilitating degree, was reported to have taken place.

DR. I. E. ATKINSON of Baltimore, asked the writer how he distinguished the molluscoid tumors described from true molluscum fibrosum, and went on to speak of cases where the tumors of true molluscum fibrosum could be pushed down into the skin as in Dr. Van Harlingen's case.

DR. WIGGLESWORTH reminded the writer of a case of mollus-

cum fibrosum described by himself several years ago, in which several symptoms were observed of a similar character to those noted in the paper just read, notably the compressibility and the gelatinous appearance on section described by Dr. Van Harlingen.

DR. LOUIS A. DUHRING, of Philadelphia, read a paper on

The Small Pustular Scrofuloderm,

consisting of a report of three cases of the disease, together with a general description of the symptoms of the process, the probable cause, and the diagnosis. It may be briefly described as being characterized by pinhead and small split-pea sized yellowish pustules with a more or less raised violaceous fixed base. The lesions are disseminated, and usually appear on the extremities, especially the hands and forearms. In general appearance they resemble those of the small pustulæ syphiloderm. They pursue a slow course, and in the course of several weeks begin to crust over with a small hard or horny, grayish or yellowish, adherent crust, which in time drops off, leaving a marked, punched-out looking scar. The lesions appear at irregular periods, new ones coming out from time to time, the whole process lasting months or years. Symptoms of general scrofulosis are usually present, and hence the disease was supposed by the writer to be a cutaneous manifestation of scrofula. It is liable to be confounded with syphilis, with acne, and with follicular lupus. The follicles, however, here are not invaded primarily. The writer stated that the disease had been first described by him in the second edition of his Treatise on Diseases of the Skin, and that it presented such marked features and was of such importance as to be worthy of careful study.

Dr. HEITZMANN, of New York, asked Dr. Duhring if he was familiar with the clinical appearances of the acne cachecticorum of Hebra. So far as he could judge from the account of the cases just given, there seemed a close resemblance between the lesions there described and those of acne cacheticorum.

DR. DUHRING replied that he was familiar with the acne cachecticorum of Hebra, both clinically in Hebra's wards and by study and examination of pictures of the disease. The eruption was quite different from that which he had just described. In

reply to a question by Dr. White, Dr. Duhring said that the follicles were not involved in his cases.

DR. J. C. WHITE, of Boston, said, speaking of the etiology of the affection, that he doubted if scrofula could influence the skin to such an extent.

DR. GRAHAM, of Toronto, mentioned a case similar to those reported by Dr. Duhring, which had come under his observation.

[CONCLUDED IN DECEMBER NUMBER.]

ARTICLE X.

ILLINOIS STATE BOARD OF HEALTH.

The regular quarterly meeting of the Illinois State Board of Health was held at the Grand Pacific Hotel, Chicago, Thursday and Friday, Sept. 29 and 30, 1881.

All the members were present, viz: T. M. Gregory, LL.D., President; Anson Clark, M.D.; W. A. Haskell, M.D.; R. Ludlam, M.D.; N. Bateman, LL.D.; John McLean, M.D.; John H. Rauch, M.D., Secretary.

The minutes of the previous meeting were read and approved.

Dr. Jas. M. Bryden, having been previously notified that complaints had been lodged against him for advertising improperly, and contrary to the rules of the Board, appeared in his own defense. He is a graduate of the College of Physicians and Surgeons, of Indiana; formerly practiced in the city of Chicago, but is now practicing in Fond du Lac, Wis., and has been advertising in the papers of that city, calling himself the *Scotch* physician, and "displaying" a wood cut of himself. He admitted that he left the State because he thought his certificate would be revoked if he continued his advertisements.

Moved, That on condition of withdrawal from the papers of all advertisements except the ordinary physician's card, and without the wood-cut of his portrait being inserted, the prosecution of this case of Dr. Bryden shall be dropped. Carried.

The following resolution, introduced by Dr. McLean, was adopted by the Board:

Resolved, That in all cases where information comes to the notice of the Secretary of the State Board of Health that persons holding certificates from said Board are advertising in an unprofessional manner, or in any way are guilty of unprofessional and dishonorable conduct, it shall be the duty of the Secretary to notify them at once to appear before the Board, and show cause why their certificates should not be revoked.

Dr. Ludlam offered the following notice to appear before the Illinois State Board of Health:

WHEREAS, Complaint has been made at this office that, as a licentiate of this Board, you have been guilty of irregular and unprofessional conduct; and whereas, if such charges should prove to be true, it will be necessary, under the statute, for the Board to withdraw your certificate, therefore you will please be notified herewith that an opportunity will be afforded you at the next meeting of the Board to present such papers and evidence in explanation and defense as you may have to offer in said case.

The case of Julius L. Lins, of Wallingford, Will county, was then considered. Lins made an affidavit in 1878 that he was a graduate of the University of Marburg, Germany, and had practiced medicine in Illinois ten years prior to July 1, 1877. Because of his ten-years practice he was not compelled to present his diploma for verification, *at that time*. The truth of this affidavit being questioned, the Dean of the Faculty of the University of Marburg was addressed, and the fact that he had never graduated there was ascertained. The Board ordered that his certificate be revoked and cancelled.

President Gregory laid before the Board a letter from Dr. G. H. Leach, of Cairo. The letter complained that W. H. Marean, of Cairo, had a certificate of practice from the Board to which he was not entitled. Intimations were also made as to improper methods of issuing certificates by the Board.

Dr. Rauch offered the following, which was adopted:

WHEREAS, Dr. G. N. Leach, of Cairo, in a communication to the Attorney-General of this State, dated Aug. 23, 1881, made

certain charges in connection with the case of Dr. Marean, of Cairo; therefore, be it

Ordered, that Drs. Leach and Marean be cited to appear before this Board at its next meeting, to show cause why the certificates issued to each of them should not be revoked.

Dr. Rauch read his quarterly report as Secretary, of which the following is a brief synopsis:

Since the last meeting 553 letters and 421 postal cards have been written; 5,552 circulars and 1,850 packages have been distributed, including 1,820 reports of the Board and Register of Physicians and Midwives. Certificates have been issued to 92 physicians on diplomas, 5 on years' practice, and 3 upon examination; 8 to midwives on diplomas or certificates of examination, (nearly all from foreign institutions), 3 on years of practice, and 5 after examination. One diploma has been held for further consideration, one was withdrawn while being considered, and 23 doctors were compelled to leave the State because of their inability to comply with the law. An inquiry has been received from Portland, Oregon, where a diploma from the Edinburgh University, of Chicago, was presented to the Medical Director of the A. O. U. W. He was at once informed of the fraudulent character of that institution, and the action of the Board with regard to the same. The distribution of the official register makes the work of the Board less onerous, although there is still considerable annoyance from itinerant quacks who claim the benefit of the ten-year exemption clause.

In view of this fact, I would respectfully recommend that the Board take the necessary action, defining that section of the statute (*vide infra*).

Small-pox has appeared at five new points, and it will continue to occur while immigration is so heavy from Europe. Because of this probability, the Board should urge the protection of all by vaccination and re-vaccination, and I would also urge the Board to pass a rule making it obligatory upon the authorities of any township, town or city, to report promptly to this Board the outbreak of any contagious or epidemic disease, as I believe it would be of the greatest benefit to all parties concerned. The experience of the last nine months, especially in connection with small-

pox, has impressed me with the necessity of the preparation by the Board of a sanitary code of ordinances, for the adoption by local authorities throughout the State (*vide infra*).

Another important matter to which my attention has been frequently called during the last three months, is the condition of the Illinois River. In view of the sanitary importance of improving its polluted condition, it is clearly the duty of the Board to do all it can to hasten the construction of the pumping works at Bridgeport.

RAILROAD SANITATION.

Although a subject of the utmost importance, and one affecting a large majority of our population, it has not yet received the attention which it demands. The hygiene of the emigrant trains is notoriously bad, but even the more elegant means of travel are far from faultless. During the past year travel on all lines has been exceedingly heavy, and this has tended largely to aggravate the already existing evils.

As bearing directly on this subject, I call the attention of the Board to the following correspondence:

OFFICE OF THE SECRETARY,
SANITARY COUNCIL OF MISSISSIPPI VALLEY,
CHICAGO, May 24, 1879.

To COL. D. N. WELCH, *General Superintendent Pullman Palace Car Co.:*

SIR: Enclosed herewith I transmit, for your consideration, a slip containing the substance of a discussion on railway sanitation, before the National Board of Health, on May 7, at Atlanta, Georgia, as also the propositions adopted by the Sanitary Council of Mississippi Valley.

Will you please inform me what measures are now adopted by your company to keep the sleeping-cars in good sanitary condition; and also what you did last summer and autumn, during the prevalence of yellow fever, and what disposition was made of the cars in which yellow fever patients were carried?

In this connection I beg to offer certain suggestions, upon which I should be pleased to have an expression of your judgment. In my opinion, the upholstering of parlor and sleeping-cars is too heavy, either for comfort or health, in summer. Could they not be put in what might be called a *summer dress* from May to September, the seats be furnished with cane bottoms and backs, or covered with leather or enamelled cloth? or, if the plush upholstery must be retained, then cover it with linen or other material that could be often changed and washed; substitute the same material for the heavy woolen curtains, and dispense with carpets entirely? Woolen stuffs absorb and retain waste matters much more readily than linen, and are much more difficult to cleanse; consequently they are much more liable to convey infection. From a strictly sanitary standpoint, it would probably be better to construct a different style of sleeping-car, for use exclusively south of latitude 37° N. A car starting from Chicago and running through to New

Orleans is frequently subjected to great extremes of temperature. Unless provision can be made both for summer and winter ventilation, such extremes must necessarily be deleterious to health, aside from the question of comfort.

I am also of opinion, in common with other sanitarians, that long distance through-cars—as, for example, from this city to New Orleans, or to New York, or from New Orleans to Washington, are not conducive to public health, but, on the contrary, are often promoters of contagious and infectious diseases. The change to a fresh and clean car at Cairo, Pittsburgh, Buffalo, or Atlanta, as the case might be, would no doubt diminish the risk of contagion or infection, if, indeed, it did not add to the safety of the traveling public in other ways; and such a change could be made with little inconvenience or trouble to passengers.

Very respectfully,

JOHN H. RAUCH, *Secretary.*

PULLMAN PALACE CAR COMPANY,
GENERAL SUPERINTENDENT'S OFFICE,
CHICAGO, June 16, 1879.

JOHN H. RAUCH, M.D., *Secretary Sanitary Council of Mississippi Valley, Chicago.*

DEAR SIR: In reply to your letter of the 24th ult., asking for information as to what measures are now adopted to keep sleeping cars in a good sanitary condition; also what we did last summer and autumn, during the prevalence of yellow fever, etc., I have to say that, immediately on receipt of your letter, I forwarded it to the General Superintendent of our Pullman Southern Car Company. After receiving his full report on the subject, I forwarded the papers to the Superintendent Central Division of the Pullman Palace Car Company, whose reports, and also that of Major Hays, General Superintendent P. S. Car Company, will be found herewith.

You will perceive, by examination of the two reports, that the questions you ask are pretty thoroughly answered therein; therefore it is not necessary for me to go particularly into details. Ever since the organization of the Pullman Palace Car Company, up to the present time, the question of the free use of disinfectants and detergents has been one to which the company has given much attention. The formula for the disinfectant now in use is the one recommended by the American Public Health Association, at a session held in New York in 1872 or 1873, and since its adoption it has been constantly in use in our cars; and we are informed by medical men and chemists that there is no better disinfectant for the purposes for which it is required. We had passed through two seasons of yellow fever on our coast lines before the extraordinary epidemic of last year, so that we were pretty well prepared to meet the emergency.

Whenever we have had a case of fever, the car has been thoroughly fumigated with sulphur, then laid by until it was believed that the germs of contagion were entirely destroyed. We are very certain that the disinfectants are thoroughly used in the cars, as the matter is continually being reported upon by our inspectors and special service men, and we are equally sure that our linen is clean on every trip, that the carpets are taken up and well beaten, and the plush and other interior arrangements of the cars thoroughly cleansed. The mattresses are frequently re-upholstered, and the pillows, blankets, etc., are thoroughly cleaned at stated times, and if inspection shows that anything of that nature requires treating oftener, the inspector immediately makes a report to that effect to this office.

In regard to the matter of ventilation, we will be very glad to receive any suggestions that any Sanitary Council may see fit to make. We are constantly experimenting with new ventilators. Most of the so-called inventions, however, are impracticable. Such as we find to be of benefit, we adopt. We are now experimenting with several styles of ventilators, one owhich, at least, we hope will be found of some benefit.

In regard to making short runs, we have no doubt that in a sanitary point of view short runs would be better for the passengers, but that is a matter we cannot control. The railroad companies and the traveling public are in favor of long lines. Passengers will submit to a great deal of discomfort rather than change cars, and it is probable that it will be some time before their views will be altered.

Regarding your suggestion that cars should be built for a climate south of lat. 37°, which should consist of entirely different interior fittings to those used in the north, I would say that such a change would entail upon the Southern company a great expense. We made the attempt several years ago to furnish sleepers to a Southern road with hard finished floors without carpets, but on arrival of the cars at their destination, the railroad Superintendent ordered carpets put down at once, as he was afraid his passengers would think they were being provided with second class accommodations.

At the same time, if we had cars fitted solely for southern summer travel, we should be obliged to lay them up in winter, and provide others for northern people making winter trips south. At the present time, with limited travel, the carrying out of your suggestion would be too expensive for us. We would be very glad, for such cars as are used on the southern roads to supply hard wooden floors to them as fast as they go into shop, and not use carpets in summer. This is a matter that we will confer with the southern Superintendent about as early as practicable.

In conclusion, I would say that we will be very happy to hear any suggestions from the Sanitary Council in regard to matters discussed in their convention at Atlanta in which we are interested, and so far as practicable will be pleased to adopt them.

Very respectfully,

D. N. WELCH,

Gen. Sup't P. P. Car Co. and Vice Pres. P. S. Car

PULLMAN SOUTHERN CAR COMPANY,
GENERAL SUPERINTENDENT'S OFFICE,
LOUISVILLE, May 29, 1879.

Respectfully returned to Col. D. N. Welch, Vice-President, Chicago.

I have carefully read the enclosed clipping, from the Atlanta *Constitution*, of the proceedings of the National Board of Health, relating to the yellow fever epidemic of 1878; Dr. Rauch's letter and your endorsement of the 27th inst., referring the papers to me for a report of the measures used by the company to prevent the spread of the disease by means of our cars, etc.

In reply, I would state that early in July of 1878, when the Vice-President and myself were in New Orleans, there were rumors of some few cases of yellow fever, and not a few predictions of an epidemic; and at this early date, to guard against probable emergencies, additional sanitary measures were inaugurated, and the use of disinfectants in our cars was commenced. We sought and obtained the best medical advice as to the use of disinfectants, and before the disease had developed itself we were using every precaution, under a well-defined system; and by the time the tide of travel had set northward, this system was in full operation under rigid discipline.

All our cars were thoroughly disinfected at *every terminus of our lines*, and pure carbolic acid was exposed in open vessels in every car while *en route*. At terminal points every car was thoroughly cleaned—all bedding, seats, carpets, and in fact everything movable in the car, were taken out, whipped, brushed, and then fumigated in a close room with sulphur. Each car was scrubbed inside and out, and then closed and fumigated with sulphur. After this process with car and equipments, they were both exposed to the open air for several hours, carefully dusted, and both car and equipments liberally sprinkled with carbolic acid. Carbolic acid was put in each

spittoon on every car running into or through any infected district five or six times during each day or night. All cars were thoroughly ventilated while *en route*, by open doors, windows and deck sash.

As soon as the disease was declared epidemic in New Orleans, Memphis and other points, our cars were withdrawn, as in the case of the lines from New Orleans to Chicago and St. Louis, from Louisville to Memphis and Little Rock, and from Cincinnati to New Orleans, via Montgomery. We had one line of sleepers only that continued unbroken during the entire epidemic—the line from New Orleans to Cincinnati, via Milan. On this line all cars were treated at each terminal point and *en route* as above indicated.

During the entire course of the epidemic we did not have a single case reported to us of yellow fever occurring from any *supposed infection* from our cars; and in *every instance* when any person coming from any infected district was taken sick on one of our cars, *not only the person*, but the *mattress, pillows, blankets and sheets as well, were removed at the first station, and all bedding and material thus removed was invariably destroyed—in no instance was any portion of it ever returned to a car.*

We do not know of a single case, *nor do we believe one can be found*, of yellow fever developing itself on any of our cars, *except in persons coming north from infected districts*, and in whose system, beyond a doubt, the germs of the disease were implanted before they undertook the journey. In every case of this kind (and they were very few), the persons, and everything movable in the car with which they had come in contact, were removed from the car as above described.

As before stated, all of our lines, except the *one* noted, terminating south in infected localities, were either contracted to the northern confines of the district in which the disease had been declared epidemic, or entirely withdrawn.

The one exception, from New Orleans to Cincinnati, via Milan, our cars were cleaned, and all the bedding and equipments therein handled at Cincinnati by men living in that city; and not only no case of yellow fever, but no case of disease of any nature, developed itself among any of these men during the entire summer and fall.

In contracting our lines as the disease manifested itself in Memphis and other points south, in the latter part of July and the early part of August all lines whose northern termini were in this city (Louisville) were entirely withdrawn, and thenceforward, until after the Board of Health had declared it safe for citizens to return to Memphis, *not a single sleeping car coming from an infected district came into this city;* the cars on the line from New Orleans to Cincinnati passed around the city by the short line cut-off, leaving the main stem of the Louisville and Nashville railroad three miles south of the city.

* * * * * * *

In conclusion, I would say, were steamboats as careful of their equipments and general sanitary condition—*were the traveling public one-half as careful of their clothing and baggage*, to prevent the spread of infectious diseases—as our service requires, I opine there would be less need of such strict quarantine measures; but under the existing regulations, I am in favor of the most thorough investigations, in cases of epidemic, of all persons and things leaving any infected locality. We have always done everything possible to prevent the spread of disease by means of our cars—have done much more than the National Board of Health appears to require; and we would like to see such measures inaugurated as would prevent the transportation of infected clothing, merchandise, etc., as this is undoubtedly the source from which the most danger is to be apprehended.

THOMAS S. HAYS,
General Superintendent.

PULLMAN PALACE CAR CO., CENTRAL DIVISION,
SUPERINTENDENT'S OFFICE,
PHILADELPHIA, June 7, 1879.

Respectfully returned to Col. D. N. Welch, General Superintendent, having noted carefully the within correspondence, and give below a report of the manner of handling cars, bedding, equipments, etc., in Central Division.

All mattresses, pillows, seats and blankets are thoroughly aired, beaten or shook at the termination of each trip, which will make an average of three times per week that they receive this treatment.

As a disinfectant we use a mixture of carbolic acid and copperas, or carbolic acid alone, applying the same only in urinals and closets.

The only case of yellow fever that we had in any car of this division was in sleeping car No. 287 *en route*, St. Louis to Jersey City, September 13–15. A lady passenger, who entered the car at St. Louis, complained of feeling sick, but supposed it to be a case of chills and fever, until the train had arrived at or passed Pittsburgh, when the passengers in the car concluded it was a case of yellow fever. The car went through to its destination, Jersey City, and was immediately switched over into the side or freight yard, the authorities notified, a tug chartered, and the lady and her husband taken down to the quarantine station in New York harbor, some time about three or four o'clock in the morning.

The physician of the Penn. R. R. Co. was given charge of the car, and he immediately disinfected it, which he did in a most thorough manner, as our reports will show, the equipments and all the interior of the car, so far as metal work, etc., were concerned, being almost completely ruined by the use of acids. After they were through with disinfecting the car, it was sent to Altoona and remained in an exposed position during the winter, at a temperature of weather sometimes as low as 13° below zero. The car was then shopped for thorough and general repairs, costing nearly four thousand dollars.

As has been our custom, which we are still pursuing, all cars, at the termination of each and every trip, are thoroughly washed and cleaned, bedding and equipments aired and dusted, carpets taken up and beaten, and as you will see by your pay-rolls, we have quite a small army of cleaners doing this class of work.

E. H. GOODMAN,
Superintendent.

Since the foregoing correspondence I have traveled at least 45,000 miles in sleeping cars. I have paid especial attention to this subject, and have reached the conclusions which follow. The condition of the car depends on (a) the handling of the car by the conductor and porter; (b) the number of passengers; (c) the length of the run; (d) the season of the year.

It is but just to state that the sanitary conditions of the Pullman cars are better than any other cars, and from correspondence and personal interviews I am satisfied that the company would cheerfully adopt the suggestions, if the public demands the same. My excuse for calling attention to the subject at this time is to educate the public to the dangers incident to traveling in through cars.

In 1879 when no cars were allowed to cross the Ohio at Cairo, transfers were daily made, and not only was there no complaint but much commendation of the method. I would respectfully suggest that this Board take such action as may be deemed proper to the subject, feeling confident that the traveling public will cheerfully comply when the benefits are made known and the companies will gladly make the change.

DANGERS OF SUMMER RESORTS.

I was at Beach Haven, on the New Jersey coast, when the Parry House was destroyed by fire. The fire was discovered at 3 A. M. and as the building was constructed of the lightest material, it was completely destroyed within an hour.

It seems almost miraculous with the limited means of egress that no lives were lost. I have been in burning hotels, but never were the inmates so completely at the mercy of the flames as in this instance. As it was, several have since died from the exposure and excitement incident to the fire. This hotel is a type of the scores to be found on the New Jersey coast, and unless steps are taken to require adequate means of escape and facilities for putting out fires, it is only a question of time when great loss of life will occur. In view of the fact that during the season, thousands from other States are guests at these houses, I think it would not be out of place to suggest that our Board call the attention of the New Jersey State Board of Health and the Boards of Health in other States where such resorts exist, to the subject and to respectfully recommend that in case there are no laws concerning it, they make an inspection of these buildings covering these points, as well as the sanitary conditions that obtain in and around these houses. The publication of such a report would go far towards remedying the evil.

The report was discussed, and the following resolutions and orders therein suggested were duly adopted by vote:

WHEREAS, In several instances recently, when suits have been brought against parties for the violation of the "Act to regulate the practice of Medicine," advantage has been taken of the ten-year clause by those who do not strictly come under its provisions;" therefore,

Resolved, That it is decided by this Board that the ten-year exemption clause, as a qualification, means that the party who avails himself of the said exemption must have actually been engaged in the practice of medicine as a means of gaining a livelihood, and must have publicly professed himself to be a physician for a period of ten or more years before July 1, 1877; further,

Resolved, That parties who have only occasionally prescribed during that time, are not by this Board considered as entitled to the benefits of the exemption.

ORDER.

Under the authority conferred upon the State Board of Health by section 2, of the State Board of Health Act, it is ordered—that on and after Jan. 1, 1882, the first cases of small-pox occurring in any township, town or city, in this State, shall be promptly reported to the Board, and also the prevalence of any epidemic, by the local health authorities, it being borne in mind that in counties where township organization exists, the township board is the Board of Health, and in counties not under such organization, the county commissioners act in like capacity.

Resolved, That the Secretary of the Board be, and is hereby instructed to request the medical schools of the State to give one or more lectures each year on the relations of the profession to the public and to each other, believing the same to be in the interests of the people and of medical men.

Drs. Clark, McLean and Bateman, Committee on Railway Sanitation, reported as follows:

WHEREAS, Earnestly believing that many sanitary evils exist with regard to the management of emigrant trains, ordinary passenger trains, sleeping coaches, the grounds and buildings of depots and even the trains for the transportation of goods and merchandise, therefore,

Resolved, That the Secretary of this Board be instructed to communicate with the managing authorities of the various lines in this State, calling their attention to the matter and requesting them to take such steps as they consistently can with reference to the sanitary improvements in these respects.

John I. Spence, of Liberty, Adams county, having applied for a certificate of graduation, presented the diploma of the College of Physicians and Surgeons of Joplin, Mo. Upon motion of Dr. Clark, the following order was adopted:

WHEREAS, It appearing from the published announcement of Joplin College of Physicians and Surgeons at Joplin, Mo., that the said medical college is not conducted according to the custom of such institutions considered in "good standing," in that it recognizes three years of practice as equivalent to one course of lectures, and that the general character of the announcement is such as to make it evident that it is not conducted in accordance with the practice of medical schools that are considered in "good standing" by this Board; therefore,

Resolved, That this Board declines to issue a certificate to its graduates.

Three other practitioners actions were taken under advisement by the Board, and in one case discretionary power was given to the Secretary to revoke the license.

Dr. Bateman moved, that the Secretary be authorized and instructed by this Board to prepare and issue as soon as practicable, the necessary blanks, forms, circulars and instructions for the collection and tabulation of returns of vital statistics.

Upon motion of Dr. McLean, the Secretary was instructed to issue a circular calling the attention of college authorities to the requirements of this Board in respect to the good standing of Medical Colleges as published in its report.

The case of Dr. M. H. Pasco, of Chicago, was referred to the Secretary with power to withdraw the Board's certificate at his discretion, and report his action at the next meeting.

Drs. Rauch, Gregory and McLean were appointed a committee to report to the Board at its meeting as to what action, if any, was necessary on the subject of Maritime Quarantine.

The Board then adjourned.

ARTICLE XI.

STEPHENSON COUNTY SOCIETY OF PHYSICIANS AND SURGEONS.

At a special meeting of this society which took place recently at the office of Dr. B. T. Buckley to take action concerning the death of Dr. L. A. Mease, the oldest practicing physician in Freeport, a graduate of Rush Medical College, of Chicago, and Jefferson Medical College, at Philadelphia, the following resolutions were unanimously adopted:

WHEREAS, It has pleased God to remove from among us, L. A. Mease, M.D., late President of this Society and for over thirty-five years a practicing physician in this county.

Resolved, That while we bow with humble submission to the Divine will, we cannot but regret the loss of a pioneer physician, whose death occurs at an age when we might reasonably hope to enjoy, yet for many years, the benefits of his ripe experience.

Resolved, That we recognized in him a courageous and skillful surgeon, fitted by anatomical and surgical knowledge and research, by judgment, coolness and manual dexterity to be, as he was for many years, the leading operative surgeon of this region; a competent and faithful physician ever ready to respond to the call of rich and poor alike, and to furnish to all the benefit of such skill and experience as, especially in the early days of his practice in this community, were as rare as they were precious to an infant settlement.

Resolved, That we tender to his bereaved family our sincere sympathy in their affliction.

Resolved, That a copy of these resolutions be spread upon the minutes and furnished the family of the deceased.

B. T. BUCKLEY,
F. W. HANCE,
LOUIS STOSKOPF,
Committee.

Domestic Correspondence.

ARTICLE XII.

THE EDITORS OF THE CHICAGO MEDICAL JOURNAL AND EXAMINER.—The patient here referred to was cured of epilepsy by the *enucleation* of an eye. Mr. K., of Indianola, Texas, for years past had been troubled with epileptic fits. The history given by himself to me was, that about ten years ago he lost the sight of one of his eyes by taking "cold" in it. Since that time he would have spells of his eye inflaming, paining him very much and usually bringing on an epileptic fit. I advised its enucleation. I told him that it was possible and even probable that it might be the means of curring him of his epilepsy. He consented to its removal. On the 9th day of February last I removed it. While under the influence of chloroform and while I was in the act of removing the eye, he was seized with a fit of epilepsy and it took four strong men to hold him on the operating table. I kept up the chloroform, and as soon as his fit left him, lasting about ten minutes, I at once removed the eye. With cooling and antiseptic dressing the socket soon healed. I then, as a constitutional remedy, put him on the use of bromide of potassium. He has had no epeleptic fit since. H. ROSENCRANS, M. D.

ELGIN, ILL., August 18, 1881.

THE ninth annual session of the American Public Health Association will be held at Savannah, Ga., Nov. 29 to Dec. 2, inclusive.

Reviews and Book Notices.

ARTICLE XIII.—LECTURES ON THE DIAGNOSIS AND TREATMENT OF DISEASES OF THE CHEST, THROAT AND NASAL CAVITIES. By E. FLETCHER INGALS, A.M., M.D., Lecturer on Diseases of the Chest and Physical Diagnosis, and on Laryngology, in the Post-graduate Course, Rush Medical College; Clinical Professor of Diseases of the Throat and Chest, Woman's Medical College; Physician and Surgeon for Diseases of the Throat and Chest, Central Free Dispensary, Chicago. With one hundred and thirty-five illustrations, pp. 437. Wm. Wood & Co., New York, 1881.

This forms a valuable aid, both to the student and practitioner, in the study of its subject. It is clear and concise in style, systematic and thorough in the consideration of each detail. The author presents the results of wide personal experience in this specialty, and exhaustive study of the literature already before the profession upon the subject.

It comprises thirty-three lectures, the first of which is devoted to an elaborate study of the regional anatomy of the thorax. Lectures II to IX contain the methods of examination of the chest in health and disease; those on inspection (and under this head are found many useful hints to the student), palpation, mensuration, succussion, percussion and auscultation. The analysis of the two latter we think particularly fine. The elements of the sounds obtained by percussion in health and disease are described as to intensity, pitch, quality and duration, in every variety of condition, from clear vesicular resonance to absolute flatness, and precise rules prescribed to the student in percussion. In auscultation the same elements are considered, with the addition of

rhythm, through each modification of the respiratory act, from the soft breeze of the vesicular murmur to the loud blowing of the trachea.

Special care is enjoined throughout upon the student to become familiar with the sounds of the healthy chest; "to form an ideal from which no great variation can occur without indicating disease." Lectures IX to XV comprise the Diagnosis and Treatment of Pulmonary Diseases, and we find that the thorough preparation in the preceding lectures leads up to the grouping of the symptoms and signs of each disease in clear and lucid style. The differential diagnosis of each disease receives great care, and tables are appended wherein the essential difference in the signs of diseases liable to be confounded with each other are distinctly shown under each method of examination.

Lectures XV to XX comprise the Anatomy, Relations and Physiology of the Heart and Aorta. The methods of cardiac exploration each receive careful detail, with the information obtained by it; and here we notice, under the head of inspection, a table illustrating the significance of alterations in the situation of the apex beat, which conveys a good deal of information in small space.

The sounds of the healthy heart and their modifications receive due consideration under auscultation. Two chapters are given to abnormal sounds of the heart and their differential diagnosis. The cuts illustrating this subject are clear and plain. Lectures XX, XXI and XXII present a complete exposition of cardiac diseases and the diseases of the aorta, and here, under each head, the confrontation tables contribute to its clearness.

The remainder of the book is devoted to the fauces, larynx and nasal passages. Four chapters on laryngoscopy and rhinoscopy, description, difficulties of and rules for, and the anatomy and physiology of the larynx and post-nasal space, followed by the diagnosis and treatment of all the diseases of the throat and nasal cavities known to present science.

The chapters on the larynx are especially well illustrated. The volume is well furnished with table of contents and index, and a handy list of formulæ is appended, in which are found the remedies used by the author, with others compiled from various sources.

When these lectures were delivered the subject of treatment was not mentioned, but in order to enhance their value in this form, the author has appended to the consideration of the diagnosis of each disease an outline of the treatment found by him most satisfactory, without mention of many different methods recommended by others.

The special points to be commended in this work are, thoroughness of consideration, method of arrangement for study, and availability of the contents for reference. W. C. D.

THE first meeting of the State Microscopical Society of Illinois for the present season was held at the rooms of the society in the Academy of Sciences, Friday evening, Oct. 14, the President, Dr. Lester Curtis, in the chair.

After the transaction of routine business, Mr. Stuart described the microscopical structure of some vegetable drugs. The subject is not suitable for abstraction, and requires illustrations to be useful.

His paper was followed by one by Dr. Curtis, describing a new stand made for him by Bulloch. This stand presented some novel features. Among the most striking was a mechanical stage of extreme thinness, admitting light at an angle of 160°. The movements were effected by a double pinion above the stage, an arrangement pronounced by those familiar with the operation of the contrivance as exceedingly useful and convenient.

The stand excited considerable attention, as did also a right angled camera lucida of German manufacture which was adapted to it; the superiority of which over the ordinary form was so marked as to be unmistakable on trying it, even under the disadvantages of a crowded room and constant jar. After a discussion of the papers, the meeting adjourned.

E. B. STUART, *Secretary pro tem.*

Summary.

QUARTERLY ABSTRACT OF OPHTHALMOLOGICAL AND OTOLOGICAL LITERATURE. By Dr. E. J. GARDINER, Chicago.

ON THE CONTINUOUS ELECTRICAL CURRENT AS A THERAPEUTIC AGENT IN ATROPHY OF THE OPTIC NERVE, AND IN RETINITIS PIGMENTOSA. By R. Marcus Gunn, M.A., M.B.—(*Ophth. Hosp. Rep., Vol.* X., *P.* 2.)

Method of application.—Weiss' continuous current battery of 25 cells was used, fitted in the ordinary way with sponges, which were moistened in a solution of common salt. On employing it for the first time in any case, the anode was applied lightly over the closed lids of one eye, and the cathode on the opposite eye or temple. The power was gradually increased, beginning with five cells until a distinct flash was experienced by the patient, on making or breaking the circuit. The anode was kept over the eyelids, while the cathode was applied in turn to the top of the spine, to a point just behind the mastoid process, and to the supraorbital region of the same side, so as to determine which position gave the greatest light impression. This varied in different individuals, but in the majority of cases, the supraorbital region was selected.

This position (the supraorbital) being determined, the cathode was kept there for half a minute or so, then removed for a few seconds, and finally reapplied for the same period as before. It was next moved to the corresponding point on the opposite side of the head, and then to the closed eyelids of this side. In both these positions it was applied for a few moments. Both poles were now removed, and the cathode then applied where the anode had been, while the anode was applied to the supraorbital

region, etc., as above. The same course was then gone through with the other eye, a slightly stronger current being finally used for a few seconds. The whole sitting lasted from five to eight minutes.

G. reports eighteen cases of atrophy of the optic nerve, treated in this manner. The following results were obtained: In case II, improvement doubtful; in cases I and X, temporary improvement; in cases V, VI, VII and XI there was marked improvement. All the other cases showed no improvement.

The continuous electrical current was tried in four cases of retinitis pigmentosa, with most satisfactory results. Case I when admitted V=in R. E. $= \frac{3}{200}$; L. E. $\frac{20}{200}$ with—36 V=$\frac{20}{70}$; when discharged May 10, R. E. V $< \frac{20}{70}$ with—40 V=$\frac{20}{70}$. L. E. V=$\frac{20}{40}$.

Case II.—Admitted Nov. 9, 1879. V=Jaeg. 4, barely with each. Dec. 20. Reads Jaeg. 1 fluently with R. E. barely with L. V=$\frac{20}{100}$ barely with each.

Case III.—Admitted Oct. 6, 1880. R. E. V $\frac{20}{100}$ with 2′0 D $\frac{20}{70}$ Jaeg. 1 at 12″. L. E. V=$\frac{20}{70}$ with—1′0 D. $\frac{20}{40}$ Jaeg. 1 at 12″. Discharged Dec. 20.

R. E. V=$\frac{20}{70}$: with—1′50 D=$\frac{20}{30}$ partly.

L. E. V=$\frac{20}{70}$: with—1′50 D=$\frac{20}{30}$ partly.

In Case IV the results were very satisfactory, but the amount of sight is not recorded.

A CASE OF SIMULTANEOUS SUBCONJUNCTIVAL DISLOCATION OF BOTH CRYSTALINE LENSES, CAUSED BY THE KICK OF A HORSE. By J. C. Wordsworth, F.R.C.S.—(*Oph. Hos. Rep. Vol.* X, *No.* II.)

A man, æt. 68, eight weeks before admission, had received a kick from a horse on his face, he was rendered unconscious for a few minutes. The bones of his nose were fractured, and both eyes were ruptured. "At the time of his admission, each crystaline lens was lying under the conjunctiva, at short distances from the cornea, a little above, and to the inner side of its margin—having escaped, through a laceration in the scleral coat of each eye, concentric to the upper and inner edge of the cornea." Good anterior chamber in both eyes; corneæ clear; pupils drawn upward and occupied by dark clots; eyes almost free from pain;

Six weeks after admission, the lenses were removed by division of conjunctiva over them. Very little irritation followed. Five months after injury was examined for glasses, when his vision was as follows:

R. E. with 10′50 D. V $\frac{20}{20}$ with 15 D. V=Jaeg. 1 at 7″.
L. E. with 10′50 D. V $\frac{20}{40}$ with 15 D. V= Jaeg. 1; slowly.

A Case of Primary Epithelioma of the Lower Eyelid. By George Lawson, F.R.C.S. (*Opth. Hos. Rep. Vol.* X, *P.* 2).

A man of 65 presented himself suffering from a primary epithelioma of the lower lid. He stated that it began as a small pimple, about three months previous it ulcerated and rapidly increased until it attained the present dimensions. Vertical diameter a little over three centimetres, horizontal diameter about three centimetres. It involved the greater part of the margin of the lower lid—it was a distinctly new growth—very solid when felt between the fingers—it could be raised from the subjacent tissues. The margin was hard and rounded, and the whole surface of the growth presented a coarse ulcerated surface, covered in parts with thick yellow purulent secretion. L. completely excised it, leaving an open wound to granulate and cicatrize. The patient has continued well since.

Three Cases of New Formation of Blood-vessels in the Vitreous. By W. Charney, M.A., M.D.; and L. Webster Fox, M.D. (*Opth. Hosp. Rep., Vol.* X, *P.* 2.)

Case I.—A young girl, æt. 14, a year ago noticed a black thread before her eye. On careful examination, the R. E. exhibited some small vessels which could be traced backwards to the lower margin of the discs, and which anteriorly formed a succession of loops and seemed to terminate near a glistening white mass in the vitreous.

Case II.—A girl æt. 19. R. E. Keratitis punctata—signs of previous iritis. In the L. E. was seen a floating vessel of a pale red color and peculiar spiral course, which could be traced forward to near the equator bulbi, then turning upward and outward, was lost in the vitreous; neither its point of origin or ending could be

ascertained owing to the haziness of the media. While under treatment (mercurial) the caliber of these vessels gradually lessened, and eight months after the date of admission of the patient, they had entirely disappeared.

Case III.—Woman, æt. 51. R. E. downward from the disc was seen a grayish spot of connective tissue on the retina, from which a bunch of vessels extended upward and forward into the vitreous. Some presented free extremities, while others formed closed loops, returning to their place of origin, after having at their most anterior part formed a very fine and close spiral. They floated in the vitreous, moving with the motions of the eye.

VOLUNTARY NYSTAGMUS. By George Lawson, F.R.C.S. (*Opth. Hosp. Rep., Vol.* X, *P.* 2.)

L. reports the case of a gentleman who at will could set both his eyes into a rapid lateral motion. The movements were an exaggeration of what is seen in lateral nystagmus, they were so rapid however, that the margins of the cornea could not be defined.

Des Indications de l' Iridectomie et de la Sclerotomie dans le Glaucome. Par le Docteur Ch. Abadie. Ann. d'Ocul. Mai, Juin.

After reporting a few cases in which iridectomy was performed with no permanent relief to the patient, A. concludes that sclerotomy should be performed.

1st. In hæmorrhagic glaucoma.

2nd. In chronic simple glaucoma, characterized by the excavation of the disc, with no disturbance of the media, and by slight increase of the intra-ocular tension.

3rd. In cases of congenital hydrophthalmus with increase of tension and in which, owing to the deformity of the ciliary region, the excision of the iris may be followed by the rupture of the zonula, luxation of the lens, prolapse of vitreous, etc.

4th. In those rare forms of glaucoma which are characterized by a fatally progressive course, and which seem to continue in spite of the iridectomy. The advantage of sclerotomy in these

cases, is that it can be often repeated until a pervious scar is obtained.

Iridectomy should be performed in those cases which exhibit a shallow anterior chamber, and where the iris and the lens are pushed forward.

TWO CASES OF EXTRACTION OF SPLINTERS OF IRON FROM THE VITREOUS. WITH OBSERVATIONS ON THE DIAGNOSIS AND EXTRACTION OF STEEL AND IRON PARTICLES BY MEANS OF THE MAGNET. By Dr. H. Pagenstecher, of Wiesbaden. (*Arch. of Opth.*, *Vol.* X, *No.* 2.)

Case I.—A man, æt. 41, was struck upon the left eye by a piece of iron, ten hours before presenting himself. On the inner sclero-corneal margin there was a wound corresponding to which there was a wound in the iris. The iris was fastened to the wound; lens clear. On the 4th day, a yellowish nodule was seen projecting into the vitreous. As this indicated precisely enough the direction of the foreign body, the extraction was at once performed. An incision was made in the inner and lower part of the sclero-corneal margin, the corresponding portion of iris was cut out. A fine, bent probe was then introduced—between the lens and ciliary body—and the foreign body was touched; then a pair of simple tooth forceps were introduced in the same direction, and the foreign body having been grasped at the first attempt was removed. The border of the lens was wounded in the process of extraction. Vitreous did not escape. Healing took place without much reaction, though the opacity of the lens slowly increased. The cataract was removed five months later. With + 3, fingers were promptly counted at three meters.

In the 2nd case, Frölich's electro-magnet was used. The patient was a mason, 28 years old, who while breaking stone with an iron hammer, was struck by something on the left eye—Stat. Pres. Perforating wound of upper lid and corresponding to the same, a small linear one near the inner corneal margin in the sclera; cornea, iris and lens intact; blood on the floor of the anterior chamber. In the middle of the vitreous was seen a pretty large air-bubble, and downward and outward there was a

striped opacity in the vitreous which terminated in a considerable hæmorrhage on the floor of the vitreous; pain during the night. Next day cornea and aqueous hazy; iris swollen, deeply injected and painful. On the 4th day panophthalmitis seemed likely to ensue. With patient fully under the influence of chloroform, P. made a small incision in the sclera, in the situation of the previously observed blood cot. Through this the sound of the electro-magnet was introduced and moved around. A loud click of the foreign body against the sound was heard. Two ineffectual attempts were made to extract the foreign body; finally, having enlarged the sound, a rough angular splinter of iron two millimetres wide and one millimetre thick was drawn out. A slight loss of vitreous tinged with blood followed; wound was closed with antiseptic bandage. Everything continued well for a few days, but soon a lingering irido-choroditis set in, which led to the shrinking of the globe. For locating the foreign body P. recommends the use of a magnetic needle such as described by Pooley, only Pagenstecher allows the needle to rotate as in a compass on a fine needle. Attention is drawn to the fact that if the media are clear and the foreign body is movable, in rendering the eye magnetic by touching it with the electro-magnet, the foreign body will be seen to follow the movements of the magnet. If this experiment fails, it is likely that the foreign body is imbedded in the tunics of the eye, and then the examination with the magnetic needle is to be resorted to. The experiments performed upon rabbits, with Frölick's sound were generally successful; if the reaction produced by the foreign body was not too great. With regard to the operation in man the prognosis is not so favorable. P. says, however, that "the introduction of the magnet for the purpose of removing fragments of steel and iron from the eye, and for their diagnosis, is a considerable step in advance, and we are now in a condition to save many an eye which would otherwise irreparably be lost."

CLINICAL CONTRIBUTIONS. By Dr. E. L. Holmes.—(*Arch. of Oph., Vol.* X, *No.* II.)

A Case of Aneurismal Tumor of the Orbit. The patient, a lady of 40, was suddenly seized with a most violent pain in left rbit. An enormous oxopthalmus at once followed.

When H. saw the patient auscultation and palpation revealed the sound and impulse peculiar to aneurism—redness and œdema of exposed ocular conjunctiva; cornea had lost its sensitiveness, it was only kept moist by artificial means, and showed signs of speedy and complete necrosis; condition of lens, vitreous and fundus could not be determined. It was deemed best to ligate the carotid artery. After two days, however, the aneurismal symptoms diminished. Five weeks later the sounds had spontaneously ceased, with great decrease of swelling and pain. At the end of sixty days after attack, the lids rested partially closed over an atrophied globe. Two years later the patient died suddenly at the breakfast table, without the slightest premonition.

Case of Persistent Hyaloid Canal.—A boy, 17, presented himself suffering from a high degree of amolyopia in the R. E. Examination revealed "a remarkable white object, resembling a wine bottle, with its body, neck and head reaching forward almost to the center of the post. cap. of the lens."

A Case of Traumatic Aneridia. — A man, æt. 53, had received (two months previous to examination) a severe blow on the right side of face and eye. No traces of iris could be found. With a proper direction of the light from the mirror, a clear, dark ring could be seen enclosing a black ring (the periphery of the lens) within which was the ordinary red reflex. The ciliary processes were not visible as regular elevations, but simply as a dark ridge just behind the border of the cornea; changes of form of the lens and of the ciliary processes could not be discerned during efforts of accommodation. There was no trembling of the lens.

ON QUININE AMAUROSIS. By Dr. H. Knapp.—(*Arch. of Opth., Vol.* X, *No.* 2.)

Blindness was produced in the three cases by quinine poisoning. The restoration of central acuteness of vision was complete in first case. It was incomplete in the second and third. K. considers the prognosis favorable even in advanced cases, there being thus far no case of permanent blindness on record.

DU TRAITEMENT DE LA KERATITE INSTERTITIELLE, ET DE LA SCLERO-KERATITE.—Par l'Iridectomie; par le Dr. Galezowski. (*Rec. d' Opth., series* 3, *No.* 7.)

G. thinks that in those cases of intersticial keratitis where the iris becomes implicated, iridectomy should be performed. He reports several cases in which this operation stemmed the disease when other treatment had failed to do so. His reason for operating is that, "when the iris becomes adherent to the capsule after a time it disturbs the circulation in the anterior lymphatic canals, thus depriving the cornea of its nutrition."

AN OPERATION FOR PROMINENCE OF THE AURICLES. By Dr. Edward T. Ely.—(*Arch. of Otol., Vol.* X, *No.* 2.)

The description of the operation being a short one I will quote Dr. E. "An incision was made through the skin along the entire length of the furrow formed by the junction of the auricle with the side of the head posteriorly. This was joined at each end by a curved incision carried over the posterior surface of the auricle, and the skin and subcutaneous tissue included by these incisions were dissected off. Two incisions, nearly parallel to the prominence were then carried directly through the cartilage and an elliptical piece of the latter measuring $1\frac{1}{8}$ inch by $\frac{1}{3}$ inch, was removed. The piece of excised skin was considerably larger than this. The edges of the wound were then united by ten sutures, of which seven included only the skin, while three passed through both skin and cartilage. Owing to the natural folds of the cartilage, it was impossible to secure perfect coaptation of the anterior surface of the auricle, and a small piece was here left to heal by granulation. The dressing consisted of absorbent cotton and a bandage. . . . Healing ensued without accident.

BILATERAL RUDIMENTARY AURICLE WITH ABSENCE OF THE EXTERNAL AUDITORY CANAL. By Dr. H. Knapp.—*Arch. of Otol., Vol.* X, *P.* 2.)

A man, age 30, of healthy parentage, was born with a rudimentary auricle on both sides. "The auricle presents a curved, crook-like ridge of skin, which in the upper curved half contains cartilage, whereas the lower half, which has the feel of the lobule,

consists only of skin. Behind the rudimentary auricle there is a flat, round depression of half an inch in diameter, bordered posteriorly by a well developed mastoid process. Placing the finger in the depression, the movements of the lower jaw are felt as distinctly and in the same manner as when the finger is placed in a healthy auditory canal. The depression behind the ear therefore, corresponds to the external meatus." The whole head, in particular the pharynx, nose and jaws are well developed. A catheter can be introduced into the tubes and the stream of air will be heard to penetrate into the tympanic cavities, when a stethoscope is applied both in front and behind the rudiment of the auricle. . . . He understands loud voice with some difficulty at the distance of five or six feet. A physician of Philadelphia, thirteen years ago, unsuccessfully attempted to open the passage.

GOWERS ON PARALYTIC CHOREA.—Five cases in children of ages varying from seven to fourteen years, three of whom were girls, formed the basis of a paper read by Dr. Gowers at last year's meeting of the British Medical Association. They illustrate that form of chorea in which the muscular weakness is the prominent symptom, the twitching and inco-ordination of voluntary movements being slight. In regard to such cases, Dr. Gowers remarks, rarely slight clonic spasm occurs in the affected arm at first, and subsequently passes off. The loss of power may be very great, as it may be much less than the loss of use of the limb would suggest. In these cases there is inaction rather than paralysis; usually one arm only is affected, and there is no paralysis of face, tongue or leg. Both arms may be affected, but one is always the weaker. On careful watching, clonic twitching is to be observed, though often very slight. The course of such cases is very tedious, but they have not been seen to pass into severe general chorea. The reported cases all recovered under the use of liq. strychniæ.—*London Medical Record.*

Items.

CARIATIDES FROM CADAVERS. -- An engineer of Havana, named Crulz, proposes the following way of embalming. The body is placed in a bath composed of equal parts of lime and clay, dissolved in a sufficient quantity of water, then it is covered with another layer of natural cement, destined to absorb the excess of water, after which the cadaver is submerged in a bath of pitch, and covered finally with a layer of lime; the contact, only, between the lime and calcareous cement being sufficient to solidify the pitch rapidly; a thick coating being formed in this manner, which possesses the same properties as the pitch of Judea, a substance to which the Egyptian mummies owe their peculiar indestructibility. As can be readily understood, a subject so prepared can exhale no marked odor; the different layers of lime, clay and pitch forming around it a kind of solid wrapping, which is opposed effectually to the disengagement of gases. A cadaver, after being treated in this manner, is deposited in the interior of a mould, which is filled with the following mixture, that very soon solidifies, and is transformed into stone: Cement, five parts; sand, three parts; ashes, two parts; water, a sufficiency. The stones which are obtained by this process acquire a remarkable solidity. Obituary inscriptions can be engraved upon them; they can be placed in mausolea, or may serve for the construction of sepulchral monuments of various forms: (Boston Med. and Surg. Journal.) We would suggest silicate of potassium (liquid glass) as a coat, which would be highly artistic, and through this process lawns and gardens could be adorned with the well-preserved persons of ancestors, in place of common statues. Or, if preferred, the busts of grandparents could be in

the same manner preserved and utilized as mantel ornaments, which would enhance the veneration of the departed.

STATE MEDICAL SOCIETY JOURNALS. — Under the title of *Ohio Medical Journal*, the *Ohio Medical Recorder* has become the journal of the Ohio State Medical Society, and will in future take the place of the usual volume of transactions. The editor in charge is the secretary of the society, and was formerly managing editor of the *Recorder;* he is to be assisted by four associate editors from as many of the larger cities in different parts of the State. We shall watch over the career of our contemporary with special attention. Although long suggested, this is the first experiment of the kind in this country. The disadvantages are numerous, if they do not outweigh the advantages of such an arrangement. There is certain discredit thrown on medical societies by those who prefer not to belong to any, and they are numerous, while they all take at least one medical paper. The editorial department soon weakens, for one reason or another, or may not exist at all, as with the *British Medical Journal.* Cosmopolitan summary of medical science and progress, which is just what the majority of readers need, finds nobody to attend to it. At the same time, a large amount of trash and useless material fill up the pages of the periodical. In journals, as in other literary undertakings, individual efforts generally succeed the best.

LEPROSY IN LOUISIANA.—The annual report of the Louisiana Board of Health for 1880, just issued, contains a detailed statement of the progress of Asiatic leprosy in that State during the last century. It was brought in 1680 to the West Indies, by the negro slaves, and thence to Louisiana. In 1778 this disease was so prevalent among the blacks, together with the African elephantiasis, and another equally horrible, named yaws, peculiar to Guinea negroes, that a hospital for lepers was established in New Orleans. At the present time, the majority of lepers in that city are found to be whites, of French, German and Russian extraction. Although the disease is infectious, New Orleans, it appears, has no separate asylum for these incurable patients, and they

are received into the Charity Hospital, and placed in the crowded wards, to scatter death: (Medical and Surgical Reporter.) Another nidus of Asiatic leprosy exists near Shediac, New Brunswick, where an asylum has been in existence ever since the French domination. It seems that the first cases of leprosy came to that place from Norway.

A SERIES OF PRIZE QUESTIONS.—The prize questions which are proposed by the various medical bodies throughout the world may be taken to indicate the points on which information is most desired. The Royal Academy of Brussels announces a prize to be awarded in January, 1884, of $1,600 for the best explanation of the pathology and therapeutics of the diseases of the nerve centers, especially epilepsy, illustrated by clinical data and experiments. If the essayist discovers a successful treatment for epilepsy, he is to receive in addition $5,000.

Other prizes offered by the Academy are for essays on the questions:

"What is the nature of the influence of innervation on the nutrition of tissues?"

"What part do living germs play in the etiology of diseases?"

"What effect does drying, as a means of preservation of plants used in medicine, exercise on their medicinal properties?"

Still another prize ($240), especially designated as for *international* concurrence, is offered by the same body for the best dissertation on the subject—"The value of spectral analysis for forensic medicine and sanitary science, exhibited by original experiments and investigations."

The Academy of Medicine of Turin, Italy, offers a prize of $4,000 for the best essay "On the physio-pathology of the blood." It is open to the world, but must be either in the Italian, French or Latin tongue.

In Paris, the Société de Chirurgie has lately announced three prizes for competition this year. "The subjects are: "The remote results of ovariotomy;" "The etiological rôle of contusions in the development of neoplasms." "The history and theory of union by the first intention."

The American Neurological Association offers a prize of $500,

to be known as the "William A Hammond Prize," and to be awarded at the meeting in June, 1882, to the author of the best essay on the "Functions of the thalamus in man;" and the Warren prize committee offer a premium of $400 for the best essay on "Chronic Bright's disease."

Following are the prizes proposed by the French Academy of Medicine for 1882:

Academy Prize.—Generalized arterial atheroma, and its influon the nutrition of the organs,—$200.

Baron Portal Prize.—The lymphatics under a pathological point of view,—$400.

Mme. B. de Civrieux Prize.—Researches respecting the causes of locomotor ataxia,—$400.

Dr. Capuron Prize.—The lochia in a normal and in a pathological state,—$400.

Dr. Godard Prize.—The best work on internal pathology,—$300.

Dr. Desportes Prize.—The best work on practical medical therapeutics,—$400.

Mme. H. Buignet Prize.—The best work on the application of physics or chemistry to the medical sciences,—$300.

Dr. Orfila Prize.—Veratrine, sabadilline, black hellebore and veratrum album,—$800.

Dr. Itard Prize.—Best work on practice,—$600.

Mr. and Mrs. St. Paul Prize.—$5,000 for a specific for diphtheria.—*Bulletin de l'Académie de Médicine.*

NOTES ON ANTHROPOLOGICAL STUDIES.—The question of the size and height of men receives a careful study in the *Verhandlungen* from Herr Ranke and others. It has been supposed by some that the earlier races were larger in size, by others that they were smaller than the people now occupying the same territory. Herr Ranke demonstrates, from a large number of measurements, that man is a creature of the soil on which he lives (?); that certain localities produce on an average men of greater stature than other localities, and that as a general rule, elevations above the sea level and mountainous regions are peopled by the larger races. No diminution in stature, nor any increase, can be

proved to have taken place since even pre-historic times in Europe. The skeletons from the oldest tumuli occasionally show individuals to have reached the astonishing height of two meters (6 ft. 6 in.), but as a rule are not in excess of the stature of the population now dwelling on the same soil.

A REMARKABLE MODE OF ZOÖLOGICAL DISTRIBUTION.—M. Méguin lately presented to the Société de Biologie a collection of fifteen leeches, of a species foreign to those found in France. They were adhering to the walls of the mouths of horses just returned from the Tunis campaign. They had been camping near Bizerte. All the brooks of Northern Africa contain that kind of leeches, called *hæmopis sanguisuga*, whose jaws are too weak to bite the skin, so that they enter into the animals' mouths when these come to drink, and cling to the mucous membrane. They may live in this situation for weeks, causing hæmorrhages, and even asphyxia, if they enter the larynx. But they die almost immediately when introduced into the stomach or the rectum.

AT the meeting of the Societé d' Anthropologie, held June 2, 1881, Dr. Magistos exhibited an hermaphrodite, born in 1841, and christened Ernestine Guériau. About the thirteenth year there had been some slight menstruation followed by enlargement of the breasts. When seventeen and a half years old this individual married a man, but the sexual intercourse was not quite satisfactory as it had a pseudo-vagina not very deep, and a penis susceptible of incomplete erection. Husband died in 1871. After this the hermaphrodite had intercourse with women, and owns that it had them before the husband's death also. Height 1 m. 78; black hair, shaves every other day; form is masculine though the voice is feminine; breasts are covered with hair. The pubis is covered with hair, and so is the perineum. There are two labia continuous above with a penis the size of a child's, 4 or 5 c.; the glans is imperforate, and there is no prepuce. It is curved with concavity downward when excited. The left labium is larger and contains a testicle of normal size, the left contains a smaller one. At the base and inferior part of the penis is the meatus urinarius whence flow the urine and the sperm.

SOCIETY MEETINGS.

Chicago Medical Society—Mondays, Nov. 7-21.
West Chicago Medical Society—Mondays, Nov. 14-28.
Biological Society—Wednesday, Nov. 2.

CLINICS.

MONDAY.

Eye and Ear Infirmary—2 p. m., Ophthalmological, by Prof. Holmes; 3 p. m., Otological, by Prof. Jones.
Mercy Hospital—2 p. m., Surgical, by Prof. Andrews.
Woman's Medical College—2 p. m., Dermatological and Venereal, by Prof. Maynard; 3 p. m., Diseases of the Chest, Prof. Ingals.

TUESDAY.

Rush Medical College—3 p. m., Dermatological and Venereal, by Prof. Hyde.
Cook County Hospital—2 to 4 p. m., Medical and Surgical Clinics.
Mercy Hospital—2 p. m., Medical, by Prof. Quine.

WEDNESDAY.

Chicago Medical College—2 p. m., Eye and Ear, by Prof. Jones.
Rush Medical College—2 p. m., Medical, by Dr. Bridge; 3 p. m., Ophthalmological and Otological, by Prof. Holmes; 3:30 to 4:30 p. m., Diseases of the Chest, by Dr. E. Fletcher Ingals.

THURSDAY.

Chicago Medical College—2 p. m., Gynæcological, by Prof. Jenks.
Rush Medical College—2 p. m., Diseases of Children, by Dr. Knox; 3 p. m., Diseases of the Nervous System, by Prof. Lyman.
Eye and Ear Infirmary—2 p. m., Ophthalmological, by Dr. Hotz.
Woman's Medical College—3 p. m., Surgical, by Prof. Owens.

FRIDAY.

Cook County Hospital—2 to 4 p. m., Medical and Surgical Clinics.
Mercy Hospital—2 p. m., Medical, by Prof. Davis.

SATURDAY.

Rush Medical College—2 p. m., Surgical, by Prof. Gunn; 3 p. m., Orthopœdic, by Prof. Owens.
Chicago Medical College—2 p. m., Surgical, by Prof. Isham; 3 p. m., Neurological, by Prof. Jewell.
Woman's Medical College—11 a. m., Ophthalmological, by Prof. Montgomery; 2 p. m., Gynæcological, by Prof. Fitch.
Daily Clinics, from 2 to 4 p. m., at the Central Free Dispensary, and at the South Side Dispensary.